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## SELF.

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"We really can take the self to be almost anything in our experience, and in the same way we can regard anything in our experience as our not-self."—BOSANQUET.

IN textbooks of psychology it is customary to find a chapter devoted to "The Self." Reading in this chapter we are apt to get the impression of a certain redundancy. By the self, we discover, is intended the mind, or it may be the soul. But then we reflect that the subject-matter of the entire treatise is understood to be just the mind or soul, whose processes, development, laws *et cetera* are being traced and expounded in the course of the work. The addition to all this of a separate discussion of "the" mind, or soul, suggests a picture within a picture. We are reminded of those books for the very young, whose pictorial cover includes a representation of that very book. Puzzles of this sort may serve, no doubt, as the child's first introduction to metaphysics. But even in the latest American "texts," in which the discourse is of that biological or "behaviouristic" cast which professes to eschew all metaphysics, we still find the chapter. Only it is now given over to what is termed "personality," "temperament" or "individuality," offering rules for judging it in others or prescriptions for developing or "integrating" it in—one must say it—oneself!

The conception of self being thus difficult to place in the old psychology, and scandalously hard to evict from the new, I suggest that in studying it we cease trying to be "psychologists" in any professional sense of the term, and deal with the topic on its merits as it arises in the field of knowledge at large, leaving upon "psychology" the onus of adapting its teachings to the results of logical analysis. On reviewing the linguistic usages, colloquial or technical, that prevail on this subject, we are struck by two things. The first is that the term "self" has a well-established use which

is in no sense restricted to what is conscious or mental. It is just as usual, as we know, to speak of the table itself, the sun itself, or the atom itself as of the man himself or of me myself. In the second place we notice that, in contrast with the foregoing "neutral" usage, there is a usage confined to psychologists and writers on mental and moral subjects. In the previous case the formula was " $x$  itself"; that which was to be taken "by itself" was specified. Now, on the contrary, the reference is to "the" self, an independent entity or substance. Thus, for example, Professor McDougall<sup>(1)</sup> ascribes to Bradley the view that in action "the self" identifies itself with the end the idea of which prevails. At the extreme in this usage we have the term "a self" suggesting that "selves" form a particular class of things which we might distinguish from other things on perceiving in them a peculiar quality, "selfhood." Professor Kemp Smith<sup>(2)</sup> speaks, for instance, of Bosanquet's failure to distinguish "the identity of a character as found recurring in numerically distinct particulars" from the self-identity of each "continuant thing or self."

It is probable that with ordinarily careful writers such expressions are elliptical; by the, or a, self they mean the, or a, subject conscious of itself. But in all writers on this subject, more or less, there exists a tendency to be carried away by the ellipsis, with what results we shall see in the sequel. At the present stage in our analysis it may perhaps be agreed that the former of the two usages, the one, namely, in which that is designated whose "self" we are speaking about, is the less dangerous. So now we may, adopting the currently fashionable device of "neutralism," commence by classifying together under the caption of "the self-related" the cases typified by "the table itself" and "the subject himself" (or I myself). Under these circumstances can the one case throw any light upon the other?

Perhaps our most obvious purpose in referring to "the table itself" is to discriminate the table, in respect of some of its properties, from out of some total context in which it is found, but in which these properties are obscured. Thus anyone who says "the table itself is three feet high" will be dealing with some such situation as that in which a table stands on a platform which brings its top to a level of five feet above the floor. The point of the remark will lie in its bearing on the suggestion (say) that by using the table to stand on we might reach up to replace an electric bulb at the other end of the hall. Thus among the implications of a reference to things "themselves" there must, as we see, be reckoned that of possible existence outside of their usual



context. If we can generalize the meaning of the term "self" from cases like this, it will everywhere import exclusiveness, separateness, isolability, privacy. It must be conceded that, rightly or wrongly, this meaning is one that we regularly entertain when the term "self" is applied to other than material things.

But the foregoing example suggests, in the second place, the element of permanence. Anything to which we can refer "by itself" is, in the current jargon, a "continuant." When we remove the table from the platform to the other end of the room, we cannot rely upon a height of five feet any longer, it is true. But, for what that may be worth, we can absolutely rely upon getting support at a height of three feet. The continuance in question is not, of course, exclusive of all change or difference whatever. In the interval before being put to its new use the table may have been disguised with a fresh coat of paint of a different colour. But this, though it may possibly prove an inconvenience by preventing recognition and thus necessitating re-measurement, will not affect the dimensions. The identity of "the table itself" involves, however, resistance to change of another sort, that typified by its removal from the platform to the floor. This would be described as a change in the table's relations or, as some would have it, its external relations. A thing "itself," then, means the thing considered as capable of surviving changes in its qualities and relations.

Before taking leave of this implication of permanence in the term "self" we should, perhaps, take some note of the fact that these distinctions between the thing itself and its alterable qualities and relations are not on all hands allowed to be valid. By some thinkers they are said to be at best but relative distinctions. Certain scientists, or rather devotees of "scientific philosophy," hold that under their analysis the identity of the "thing" is shown to be an illusion. They may urge that there is no table itself which is the same on the platform as "it" is on the floor. Yet these same thinkers will be found insisting that in what they describe as any one "appearance" of the table, *this* must be completely distinguished from *its* relations (or external relations). The fact of the matter is that to get a truly whole-souled philosophy of relativity you must go to a different sort of philosopher altogether, one of the school known as absolutists. They alone say that the distinction between all things and "their" relations is a relative one. If this seems paradoxical, you must remember that absolutism is merely the doctrine that nothing is absolute but the Absolute. Whereas the other philosophies, realistic or what not, have always some par-

ticular entities—appearances, sensations, sense-data, *sensa*—which they say are absolute.

A third implication of a reference to "the table itself" is utility. Convenience was obviously promoted by our ability to distinguish the table from its context, or to recognize its independence of such changes as difference of colour or of position. Even those who would philosophically reduce these distinctions would admit their technological necessity. Many of them, indeed, hold that isolability and permanence are not just something in the facts which it is thus convenient to recognize, but are wholly and solely a creation of human thinking functioning as the outcome of vital needs of the organism. In any case, our attitude towards "things" is that of control or exploitation, an attitude bound up with the observance of their mutual externality and exclusiveness. As Professor G. P. Adams<sup>(3)</sup> has pointed out, the subjectivist doctrine that *esse* is *percipi* must be supplemented by the consideration that *esse* is *uti*, if we are to grasp its full significance.

As against this there might indeed be cited the tendency which has at no time since the Greeks wholly died out, to ascribe an immanent and independent purposiveness to the existence of particular things as the basis of their identity and permanence. This tendency, however, can be easily assimilated by the mechanistic view. Its object is reducible to that "nature of things" respect for which is but man's supreme device for directing events to his own unexamined ends. If, in particular, we choose to consider that case in which it is most common even now to base identity on purpose, the case of living things, we see that this recognition is more and more made contributory to the utilitarian position. Knowledge of the (purposive) "nature," the instincts *et cetera* of an animal, even of a man, is sought, not as something to be rationally shared or as disclosing a common world, but simply as a means of manipulating their subject. So it is that "purposive" psychology redounds to the greater glory of mechanism. There is no fundamental reason to distinguish the "purposiveness" of a man seeking food from that illustrated when a square brick makes a square hole in the bed of mud into which it has fallen. Both are equally "being themselves" or, if you will "becoming themselves." Any such "self," then, is a mere part of a whole, into which it must carry its exclusiveness and permanence if it is to make its proper contribution to the whole.

Exclusiveness, permanence and utility, then—in one word, particularity—mark and define the "thing" or continuant. These it is that constitute the ordinary reference to a thing



"by itself." Our problem is thus presented to us in the form: Is the self-relation thus described the only, or the fundamental, self-relation? Is what each of us means by "myself" just a particular case of this, and so subject to the limitations incidental to particularity? There is a widespread conviction that this is not so; that there is a basic difference consisting in the fact that my relation to myself is a conscious reference. The contrary view, however, is definitely urged or implied in many important scientific and philosophical circles today. It may take the form of the doctrine that consciousness does not exist, or that it is scientifically negligible. The logic of all such doctrines is the same, that the self-relatedness of any subject of discourse, whatever appearance of conscious reference it may present, is reducible to the type exemplified in the relation of  $11 \times 3$  to  $49 - 16$ .

What we have cited as the common view, which denies this, is in harmony with the philosophical tradition. Now a philosophical doctrine implies the solution of a philosophical problem. That means a problem to which the opposing solutions are not to be sufficiently represented as mere contradictories. The solution we are now to consider, then, cannot be adequately conveyed by the mere citation of instances forming exceptions to a proposed general rule. To point out that there are identities based on consciousness of self as distinct from the identity characteristic of "continuants" cannot fully represent the position. Nor, again, can the solution be summed up in that further procedure, characteristic of the methods of natural science, which consists in the adjustment to a given generalization of apparent exceptions thereto, by differential or "causal" explanation. Nor is the question even one of proving a contrary in the ordinary sense. Here it is not a matter, that is to say, of showing that, so far from consciousness of self being a particular case of the self-identity of the "thing," the latter is a special case of self-consciousness. This also would be but a provisional description of the solution. Its pitfalls are to be seen in the case of "anthropomorphic" theories of Nature such as those of Leibniz or Ward. The solution now in question would state the relation rather thus, that the self-identity of the "physical thing" is what is necessary to constitute the latter the object which is the correlative of the self-consciousness of the subject. The two forms of self-relatedness that we have considered, then, are neither of them an instance or special case of the other. They are the correlated characters of subject and object in knowledge.

The difficulties which confront us in trying to understand the statements of the psychological textbooks on the subject of

self, arise from the fact that these treatises are trying to resume a state of doctrine in which there has been no such criticism of categories as we have suggested. Thus we have accounts presented which envisage "the self" as a particular thing or substance, on the analogy of, or literally as, the bodily organism, and then are not able to make anything of knowledge or consciousness. Or we have accounts that give us a little of the one and a little of the other. Or the self-relation of the "thing" and the self-reference of knowledge would appear to be a matter of different relations in which the "thing-self" stands. Thus Professor Woodworth<sup>(4)</sup> in his chapter on "Personality" devotes a paragraph to "the self as it is thought of by the subject." This he contrasts as "subjective" with the self which "in a broad objective sense is the individual." Apart from the utterly unsound use of the terms subjective and objective here, a usage which has crept into the literature of American psychology only since the time of William James, who could not have sanctioned it, what are we to think of the educational effect of such a slurring over of a problem which is of critical importance in determining the whole character and scope of psychology as a science? It is not too much to say that the acceptance of "the self as it is thought of by the subject" as a valid sense of the term self would not merely imply the expulsion from psychology of the so-called broad objective sense in which the self is "the individual," but would entail the rejection of the entire view, presented by Professor Woodworth throughout the remainder of his book, of what psychology is.<sup>1</sup>

A brief elucidation of the classical conception of self in philosophy is now in order. It will show us two things. In the first place it is capable of embracing and does embrace the two meanings of the term self which we have distinguished, those exemplified by "I myself" and by "the table itself" in a unity sufficiently intimate to satisfy the most ardent "neutralist." It is all a matter of getting these conceptions in their right order. In the second place, so far from precluding the possibility of an empirical psychology or hampering its growth, it provides a sound basis for a thoroughly scientific development of the subject. Right down to William James we can trace a psychological view of self-consciousness which is anchored in the classical tradition. After James,

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<sup>1</sup>No doubt this postponing of problems and heaping up of appearances, however mutually contradictory as items to be learnt, will be defended on the basis of the current "realistic" methods of the "newer pedagogy." As to the prevalence of the latter, one can only surmise that things are likely to get worse before they get better. It may possibly contribute a little to the latter end to point out how the very same people who expect great things of realism in education are the most vociferous in the denunciation of "cramming."



with the emergence of the pseudo-biological "structural" views of the present time, there is a definite desertion of that standpoint, though remnants of classical philosophy are still an unresolved element in the theories of a writer like Mr. Bertrand Russell.

If the "neutralist" demands, then, that in our study of what is meant by self we commence with the case of the identity of the physical "continuant," the classical philosopher will reply that nothing could suit him better. He will point out that the state of affairs referred to as the thing, its qualities and relations, is one that pertains to thought, in which it plays the part of object of knowledge. Thought, according to philosophy, is a process incidental to knowledge, and could only become a subject of "psychological" study by abstraction from knowledge. Knowledge, implying truth, is at once the presupposition and the goal of thinking; thinking is an essential feature of that process of realization in which we advance from doubt to certainty. But now, as Socrates showed, knowledge essentially is (or would be) self-conscious. For us to know is to know that we know. This it is which distinguishes knowledge from mere thinking or opinion, even when the latter happens to be "right" opinion. To illustrate: An inhabitant of the United States may think, and rightly, that the name of the capital of New Zealand begins with a W, but if he also thinks that it is Wanganui, his former opinion will not be knowledge. He is not in a position to know that he knows. Of course it will be recognized that if this is the general criterion of knowledge, knowledge must be of the nature of a growth; not something which we are quite without at one time, and have altogether and complete at another time. Its connection with whatever we term "thing," "substance," or "essence" lies solely in the fact that the latter is what is discriminated as the object necessary to the development of self-consciousness. The identity of the "thing" implies that other identity which consists in the peculiar way in which I am one with myself in knowledge. Neither identity is to be reduced to the other. Anterior to the "structural" distinction of subject and object, then, there lies the "functional" distinction of our self from our not-self. The point for the psychologist's attention here is that it is precisely the self-consciousness thus formally implied in human knowledge that constitutes in fact the only possible "self-knowledge."

But when we inspect any piece of knowledge from this point of view we see that the distinction of self and not-self, though fundamental to knowledge, is as yet only a formal implication of its validity. This distinction is indeed

the ultimate principle of discrimination within human experience, the framework within which all other distinctions emerge. But its nature is to act as a driving force to the growth of experience. We know that we know before we realize what we know, and the former is the motive to the latter. Now the process of realization which is thus set up must be interpreted on both sides; it is in it, and only in it, that self is being defined and specified, concomitantly with what is not-self. Herein, then, we see the proper and only genuine task of empirical psychology, to trace the phenomenology of self-consciousness as such, and there can be no complaint of lack of empirical material. Of all the researches, physiological or biological, which occupy the "psychological" literature of the day we must ask to what extent can they be assimilated or made contributory to the exposition of the growth of self-consciousness. Only if they can, do they belong to psychology. In so far as they cannot, the consequences of assuming that with them the psychological aspects of life have been taken into sufficient account must eventually be tragic. For example, the "discovery" that a man has an "I.Q." of 75 is not a psychological fact. On the other hand, what he thinks when he is told so is a psychological fact. The assumption that the latter fact is negligible in comparison with the former is in any circumstances acutely dangerous.

Perhaps I should advert here to the charge of "intellectualism" that will doubtless be brought against the traditional attempt to base the psychology of self upon the formal analysis of knowledge. At this stage I would merely point out in the first place that to intellectualism there is only one alternative philosophy, and that is mechanism. In the second place, mind is first and foremost a process with aspects, not a structure of separate organs. Whatever is conative or affective must thus be cognitive as well. If psychologists admit that all mental process is cognitive at least, they must be prepared to accept the consequences.

A further point about the distinction of self and not-self in its bearing upon the process of human experience is that while experience is the process in which that formal distinction is continually obtaining concrete embodiment, the distinction nevertheless never loses its formal character. We must not, that is to say, expect to arrive in some moment of final discovery at the perception of a thing that is "the self," something to which it will be possible to pay exclusive attention, and about which we might acquire positive knowledge while remaining in comparative ignorance of other things. Our self has no positive character of its own over and above the objects of that experience in which we are



self-conscious. Yet our self is not without content; its content consists of, or is drawn from, just these objects of our experience. By our self is not meant the mere subject in knowledge. The structural distinction does not coincide with the functional. Suppose, for example, we are reconsidering some judgment we have made, let us say a weather forecast. Our "better judgment" will either tend to reject or to confirm the previous one. In the latter case we identify our self with the subject which made the judgment. But in the former event we dissociate our self from it. The same holds of the relation of our self to the object in any shape or form. The case of our rejection of a previous judgment has just shown us, indeed, that we can, and constantly do, identify our self with the object to the exclusion of the subject; against the erring subject we "appeal to all the facts of the case." But the formality of the distinction of self and not-self is seen in this, that self is just as fluid in its content in respect of the object as it is with regard to the subject of knowledge. With whatever we identify our self at any moment, and identify it with something we inexorably must, from that we are also able to distinguish it. While the idea of self can never be defined save by its specification in terms of some particular object of our experience, it is equally true that it can never be exhaustively expressed in any. This is just to say that self is a universal; the type, indeed, of all universals. Nothing less, then, than the deliberate effort to trace the gradual development of this conception in human experience from the abstract to the concrete is the task of a truly scientific empirical psychology. This duty the so-called scientific psychology of today has shirked or openly abdicated. Why it has done so is a point that calls for investigation.

Our immediate task, however, is to show how the theoretical founders of empirical psychology stood in relation to the philosophical tradition. Hume is commonly regarded as the destructive critic of personal identity. We have no idea of self as that is commonly explained by philosophers, his argument runs, for from what impression could such an idea be derived? No such impression is on the closest scrutiny of sensory experience to be found.

"When I enter most intimately into what I call *myself*, I always stumble on some particular perception or other, of hot or cold, light or shade, love or hatred, pain or pleasure. I never can catch *myself* at any time without a perception, and never can observe anything but the perception. . . . If anyone, upon serious and unprejudiced reflection, thinks he has a different notion

of *himself*, I must confess I can reason no longer with him. . . . He may, perhaps, perceive something simple and continued, which he calls *himself*, though I am certain there is no such principle in me.”<sup>(5)</sup>

“Something simple and continued!” Here is brought out precisely that temporal permanence which we saw to be characteristic of the identity of the particular physical “thing.” All that Hume is repudiating is the attempt to conceive self as the principle of substance. But in thus pointing out that we have no objective idea of a certain thing among others which to their exclusion is our self, he is in fact but emphasizing one side of the classical tradition, namely that which asserts that our idea of our self can only be specified by particular objects or “contents” of experience. Just as “knowing that I know” is not an additional piece of knowledge tacked on to the latter, so I that know am not a further object of the same order as that which I know.

The other and complementary side of the tradition, namely that our self, while inseparable from its specification in experience “objectively,” is inexhaustible by any such specification, Hume does not touch upon. The filling up of this gap he leaves as a challenge to others. He could do no more, hampered as he was by the doctrine that an idea is but the faint copy of a certain impression. Meanwhile it is worth remarking that his criticism is valid against those psychologists of today who have no better conception of what an idea is than Hume’s characteristically naturalistic one, but who still maintain a positive view of “the self” centred upon the bodily organism, namely a substantive particular which they call “the individual.” Their troubles begin when they have to deal with self-consciousness in any form. Let us hear Professor McDougall. He is objecting to the “intellectualist” theory that we can be moved to action by the idea of self, and, says he,

“In the absence of a strong self-regarding sentiment, the idea of the self, no matter how rich and how accurate its content [fancy an *accurate* idea of self!] can play but a feeble part in the regulation of conduct, and can exert but little or no influence in moral choice.”<sup>(6)</sup>

No, we should rather think not! When in obedience to the behest of the Seven Sages, “Know thyself!” a man proceeds to call up the memory-image of an index-card specifying his age, height, weight, colour of eyes and hair, cephalic index, temperament, and I.Q., we can perhaps imagine such an “idea” driving him to suicide, but otherwise its possibilities



as a motive would appear to be distinctly limited. Surely the impotence of the "idea of the self" thus derived should suggest to us that, instead of bolstering it up with *ad hoc* "sentiments," we rather try the effect of revising our entire conception of the problem, beginning with our notion of what is meant by an idea.

James,<sup>(7)</sup> too, gives an account of self which is, in its main features at least, true to the classical position. His treatment of the subject is expressly an investigation of the consciousness or idea of self. As he envisages it, the question for the psychologist is just that of tracing the meaning of this idea as people actually hold it, not of confronting these ideas with a professedly positive account of something that "really is" the self. James's description of the various "empirical selves" of each of us is just an account of the various things in experience with which we identify ourselves upon occasion. It is a study in the phenomenology of self-consciousness. Moreover, it may, in view of our previous argument, now be understood that this phenomenology is, philosophically considered, more profound than James's more expressly "metaphysical" references to the "pure ego"—the I as opposed to the me or me's. If it be asked what in particular "is" our self, the only possible answer is that our self is what it is "known as," and it is "known as" just those things which James specifies, property, products, reputation, powers, as they exist in our own estimation (shared or not, but none the less our own if shared). In these the idea of self is perpetually attaining definition; in this manner alone can the process of definition be ascribed or applied to it.<sup>1</sup> Attention should further be paid to the fact that of the three main divisions of the empirical self according to James—the material, social, and spiritual "me's"—the last-mentioned comprises what are called mental dispositions and capacities. Now it is these, or in some cases what is so glibly described as their bodily "basis," that are in contemporary "scientific psychology" held to constitute "the self." Observe, then, that James's (essential) contention is not that these *are* the self in any more final sense than are our property or reputation. In conscious experience we do upon occasion identify ourselves with these "unconscious" elements. Now the decisive difference between a view like James's and that of those who say the self is the sum or system of mental dispositions or traits comes out in the fact that the contents of this "spiritual me" (again precisely on a par with the other "empirical selves")

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<sup>1</sup> But note that the same holds good ultimately of the definition of *any* universal, of all of which, as was said above, self is the prototype.

are constantly upon occasion just as decisively relegated to the not-self; we distinguish ourselves from them, criticize them, disown them, transcend them—and remain ourselves. The disjunctive relation of the universal to its particulars is nowhere more clearly exhibited than it is by the supreme universal—self. It is this recognition that there is nothing whatever which we can identify as our self from which we cannot completely distinguish our self, that definitely enrolls James in the philosophical succession.

In a further article I shall show in some detail how the competence of the New Psychology to deal with the question of self is affected by its choice of the “organismic,” or structural, conception thereof, and how it consequently falsifies the nature of individuality in theory, and crushes it in practice, because of its enforced identification of the individual with the particular.

#### REFERENCES.

(1) “Social Psychology, 14th Ed., p. 377.

(2) *Mind*, N.S. 143.

(3) “Idealism and the Modern Age.”

(4) “Psychology,” p. 555.

(5) “Treatise of Human Nature,” Book I, Part IV, Sect. VI.

(6) “Social Psychology,” 14th Ed., p. 248.

(7) “Principles of Psychology,” Ch. XII; “Textbook of Psychology,”

Ch. X.

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## SOME ASPECTS OF PROPAGANDA.

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### I.

THE Great War was remarkable for more things than one; not the least, however, was the evidence it furnished—evidence too striking to be easily forgotten—of the pervasive and powerful effect upon the social mind of well-organized and skilfully directed campaigns of publicity, whose aim was to form a common opinion among all classes of society. In the early stages of the war, the belligerent nations congratulated both themselves and modern civilization at large, upon the efforts which all were making to convince their own citizens of the moral justice of their respective causes, acclaiming this as signal proof that no civilized government would dare to adopt, or act upon, a policy disapproved by the moral sense and right reason of its people. But the new methods of influencing the popular mind through the use of the press, the lecture platform, the advertising column, the wireless and the motion picture proved so immediately and astonishingly effective that, as the difficulties and dangers, the trials and temptations, of the war increased and military necessities became more compelling, these same methods soon came to be used with less and less scruple for truth and justice in order to keep the popular passions aroused to that fever heat of fear, anger and rage, without which the authorities believed it to be impossible to continue the relentless prosecution of a war that was exacting such universal calamitous destruction, and inflicting such unspeakable agonies of suffering. It was under these circumstances that the word propaganda with all the sinister associations which it now arouses in the popular mind, came into common use.

It must be remembered, however, that partisan appeal with misrepresentation and denunciation of opponents, unfair abuse and half veiled innuendo, was no new thing. It had become a familiar accompaniment of political government in all modern countries. But this was coarse and clumsy work in comparison with the methods that propaganda now employed. For, in the first place, propaganda made full use of the new methods of disseminating information and

creating opinion devised by recent invention. While partisan appeal had found expression in the press or through the medium of the personal appeal of rhetoric, propaganda quickly discovered the potentialities of the advertising space, the poster, the cinema, of anything, in fact, that would enable an emotional shock to be given to large numbers of a community as simultaneously and as forcefully as possible.

Secondly, and perhaps more important still, although propaganda often availed itself of the technique of misrepresenting opponents with consequent self-laudation, nevertheless, it did not confine itself to this one technique, one which, after all, is comparatively crude and inefficacious, can be easily countered and thus often defeats its own ends. The secret of the power of modern propaganda, that which made it such a potent instrument for good or evil, lay in the fact that it was directed by those who possessed a scientific knowledge and full understanding of the underlying motives, the fundamental instincts, impulses, and emotions, which are the prime movers of all human activity. It consisted essentially in the selection for dissemination and widespread publicity of just those facts and situations that would touch certain springs of action, and thus by the liberation of impulse, direct both thought and action into the channels prepared for them by the propagandist agents: the selection of just those situations and the ruthless suppression of all others. As thus employed by war-time governments, propaganda proved to be an instrument of such sweeping and terrible efficiency that since the war its principles of persuasion have been adopted and utilized with almost equal success by war relief agencies, welfare organizations, institutions, government departments, and political parties. Propaganda has profoundly influenced, and has in its turn been influenced by, the technique and methods of present day advertising, itself one of the most important forms of modern publicity. For these reasons, then, if for no other, a knowledge of the methods and principles of propaganda may go far in counteracting its present all too pervasive influence.

## II.

What is meant by the term propaganda? For an answer to this question one may turn in vain to the textbooks on social science. For the most part propaganda is considered a non-existent force, or, if some notice is taken of it, a paragraph or two is enough with which to dismiss it. Some writers, however, have recognized the fact that it plays a part in the ordering of social relations. Brief mention of



their point of view will, I hope, enable us to arrive at a workable definition. E. D. Martin<sup>(1)</sup> looks at the subject from the point of view of the low level of public opinion in the modern state. This he believes to be due to the standardizing of the opinion of the thinker with low intelligence, to the functioning of crowd ideas and facile rationalization in place of honest thought and, finally, to the widespread use of propaganda. The latter is, for Martin, nothing but advertising, insinuation, deception, the sugar coating round the bitter pill that propagandists wish to foist upon a credulous public. Bertrand Russell<sup>(2)</sup> takes up a different attitude towards propaganda. He neglects almost entirely the part which it plays in the formation of a virtually new public opinion and holds that the chief effect of propaganda among adults is the same as that of a brass band; it does not make people alter their opinions, but it makes them hold their opinions more excitedly. I do not believe this attitude towards propaganda is tenable. It is analogous to the frame without the picture, since it is just the fact that propaganda creates, as much as controls, opinion which makes it such an important force in the world today.

A different treatment again is that of the writer in the *Encyclopædia Britannica*.<sup>(3)</sup> His position is that propaganda is the effort to influence opinion, or to promote a doctrine or practice; its differentia from the diffusion of useful knowledge is that its object is to promote the interests of those who contrive it rather than to benefit those to whom it is addressed. This is on the right track, but the track does not lead the writer far enough; and it seems necessary to add a further criterion to that of the promotion of selfish interests—the criterion that creation of public opinion is brought about by non-rational means, by thinly veiled appeals to emotion and impulse—before we have a conclusive standard by which to separate propaganda from the diffusion of knowledge. Finally, I may mention Dunlap's point of view.<sup>(4)</sup> He shows that propaganda is often used in two limited senses: first as designating the activity within the larger society of a smaller organized group which attempts to change the opinion of the larger group; second, as designating the attempt to spread a vicious view as contrasted with a noble or truthful view. Dunlap maintains that neither of these limitations is justified, and that the most useful sense of the term is in its application to every attempt to influence the opinions of others in respect to accepted conventions, laws, standards of conduct, or in respect to the organization of society in general. This meaning of the term propaganda seems to me to be too wide to

serve any useful purpose, for on this basis the distinction between propaganda and education and yet again between propaganda and the diffusion of useful knowledge can hardly have any validity; yet both are distinctions that need to be clearly kept in mind if clear thinking is to result.

It will by now be fairly clear how I believe the term propaganda should be defined. Propaganda, as I understand it, means the process whereby public opinion is formed and controlled by appeal to the irrational side of man's nature in such a way that it is usually favourable to the interests of those directing the propaganda. This definition stresses the points that I have emphasized above; namely, that public opinion is influenced through its formation, alteration and control; that propaganda usually tends to further the interests of those in control of the propagandist campaign—though, of course, there need not necessarily be a selfish reference in publicity to constitute it propaganda; finally, that what constitutes propaganda is an appeal, not to reason through cold logic, but appeal to impulse through a flood of emotional stimuli. This conception of propaganda may perhaps be made clearer if it is contrasted for a moment with education. The two, propaganda and education, have often been confused; such confusion appears to rest on a dual basis. Some have held, first, that education is merely an instrument by which some change may be produced in the the future; while others have assumed that an educational system is merely a vehicle for the teaching of one doctrine or set of principles—conservative, imperialistic, socialist, anarchist, as the case may be—to the exclusion of all other doctrines. The first assumption ignores the fact that education, broadly conceived, is a part of life, a growth in the personality of the individual and means the development of insight, sympathy, self-control, intellectual honesty, and love of knowledge; the second, the fact that truth is a many-faceted gem, and that no one theory can produce that openness of mind characteristic of a free people. Thus, once the fallacies on which the identification of education and propaganda is based are shown up in their true colours, it is seen that education and propaganda are poles asunder. Education means a development of personality, a development which proceeds through the balanced cultivation and harmonious integration of the intellectual and emotional aspects of the mind. Propaganda, on the other hand, is the formation of opinion; it proceeds through the one-sided exploitation of the irrational features of the mind and is directed towards the promotion of the ends of interested



parties. In the one, the individual is an end in himself; in the other, he is merely a tool and nothing but confusion can come from either a theoretical or practical identification of the two.

I have said above that propaganda is characteristically a feature of modern social life. It is interesting to consider shortly the reason for this, or rather, the reasons, for there were more than one. Why, for instance should there have been no mention of anything remotely resembling propaganda in the days of Pericles or in the writings of Hobbes, Machiavelli, or Locke? The reasons for this may, I think, be conveniently grouped under four heads. The first is that the twentieth century is peculiarly the century of universal education. Previous to the modern epoch, education was mostly the privilege of the upper classes, and of those of the middle classes wealthy enough to afford for their children the somewhat scanty education of private schools. But with the development of the idea of universal education, the great mass of the people in the modern state are no longer illiterate, but are now in the position of being able to read, write and spell. Unfortunately, of course, this education, or all of it that is compulsory, stops for the majority at the age of fourteen and thus leaves this majority with little more than the tools, rarely with the spirit, of true knowledge. Thus the masses are in a position to read and to understand, though not to exercise a critical faculty on what they read. They turn to something that will give them news and amusement easily and quickly, without the wearisome necessity for thought and they find ready and waiting, the Press.

It is inconceivable that there should ever have been any publicity in the days when books were produced by slow hand copying. But the invention of the modern rotary presses has coincided with, and catered for, that demand for cheap reading matter which has been the outcome of compulsory education. The modern press has thus been able to keep up with this insistent demand for something to read, and year by year pours out an increasing flood of literature, good, bad and indifferent. Let the propagandist organization but capture a newspaper trust, for example, and it holds within the hollow of its hands the opinions and beliefs of a million or so readers, who, since they have trained their minds on little save sketchy newspaper reading and light literature, have developed no habits of doubt, no sense of judgment, no ability to reason. Thus the modern press forms a powerful instrument for a propagandist interest in two ways. It favours the development of slipshod habits of mind, loose

thinking and still looser emotional control; and it places unlimited power, more sinister and dangerous because it works in a subtle and underground fashion, in the control of this same interest. This is the reason why the art of the propagandist is concerned to operate, first and foremost, through the medium of the printed page.

Parallel with this development of printing has gone a similar development of inventions designed to annihilate space. I refer to the wireless, the steamship, the railway, the motor car, the flying machine, the telegraph, the telephone, the electric cable—to number few among many. The achievement of them all has been to cut down what was previously a matter of hours, days or weeks to a matter of mere minutes or seconds even, to turn isolation of feeling into community of feeling. The effect of these inventions is evident in the way a country may now be thrown into a state of violent emotional excitement. When emotional excitement over a question of foreign policy, for example, spread over the country in a series of waves so that one part of the country experienced the excitement, passed it on, and then settled down to its customary lethargy before another part of the country was seething, it was practically impossible to obtain any immediate unity of feeling. Nowadays, however, it is hardly possible any longer to talk of emotional waves spreading over the country; since the invention of the wireless, telephone *et cetera* the analogy is more that of a violent emotional flood submerging the whole of the country in one wild onrush and ensuring that all think and feel alike about the same subject at the same time. The recent riots over the Sacco-Vanzetti executions are evidence of the way Radical circles throughout the world might be thrown into a community of excitement over a question affecting common interests.

As a final factor in the development of propaganda I briefly mention the knowledge which the New Psychology has made available concerning the springs of activity in man. The older introspectionist psychology had little light to throw on the problem of motives in conduct. But with the application of the principle of biological evolution to psychology<sup>(5)</sup> and with the knowledge derived from the study of mental structure in psycho-pathological patients, it has been possible to formulate a conception of mind, which, while not denying or minimizing the importance of later developed levels of activity and of personality, emphasizes the fact that the instincts, the desires, the appetites, the emotions, that man shares with the higher animals form for man the founda-



tion of mind on which is erected all the complicated cultural and moral structures and other controlling levels of the civilized man. The great instinctive drives are all important in motivating activity, in creating belief. To influence behaviour we must tap these drives. The modern publicity expert has learnt of the power of impulse, emotion, unconscious motives, rationalization, and suggestion and the control of behaviour. Upon these keys of activity he plays, and, like the skilled pianist combining his notes at will, the publicity expert is able to evoke any pattern of behaviour or type of belief he desires to produce, all unbeknown to the ordinary man. Had there been no New Psychology and no Great War as a testing ground for wholesale persuasion, there could scarcely have been any large scale propaganda.

### III.

I come now to consider the various methods whereby propaganda material is made an efficient weapon for the formation of public opinion. Those methods which I have distinguished are shown at work most clearly and definitely in war propaganda, but they are found in a more or less modified and attenuated form in most political and commercial propaganda. They are not, of course, found clear cut in any propaganda campaign, for the essence of the latter lies in the efficient disguise of both one's motives and methods. For the purpose of exposition the methods may be separated; but in practice, as Mr. Trumbell remarked in Arnold Bennett's novel, "Lord Raingo": "Propaganda, if I may say so, is an extremely subtle enterprise. Whatever else it may be, it must not be crude, which is another way of saying it must not be direct."

Taking the method of collective responsibility first: the chief aim of those directing propaganda in war time is to unify the home forces against the enemy. This can be done effectively by attributing collective responsibility to the enemy, by setting up before the masses a representation of the German Brute or the British John Bull or the American Uncle Sam and against this representation laying all the crimes committed, real or alleged, or harm done by the enemy forces. Some offence, for instance, has been committed by a German; therefore Germany did it, and to punish any German whatever is to inflict satisfactory punishment for the offence. "They drowned my brother," said an allied airman when asked his feelings about the rightness or wrongness of a reprisal bombing raid over some German cities. Thus because a sailor from Hamburg is instrumental in drowning

an Englishman in the North Sea, an old woman in a garret at Freiburg or some children in Munich who have but dimly heard of war, and could not even remotely be held responsible for it, or have prevented it, are killed with a clear conscience because they are Germans.<sup>(6)</sup> The Press is foremost in popularizing this conception of collective responsibility with such terms as "Germany declares . . . .," "Russia wants . . . .," *et cetera*. It is eagerly taken up by the masses because it enables them to settle any qualms of conscience in regard to the justification or otherwise of their action in thus lumping together the sheep with the goats. Once you can say quite definitely that the enemy, taken collectively, is entirely in the wrong, it saves you the trouble of laboriously considering all the evidence of the case and of trying to sheet home the blame in the proper quarter. Collective responsibility enables you to swamp thought in an emotional blur of unrestrained hate. In politics the same mechanism is at work in a milder form; we have denunciations in such terms as "Labour will do this, that, or the other thing," or "The Conservatives will . . . ." *et cetera*.

The policy of applying the notion of collective responsibility to one's opponents gains its effectiveness because it makes an unconscious appeal to primitive impulses of group solidarity. In any comprehensive propaganda this policy is further fortified by the use of vilification and systematic abuse of those opposed to one's own side. When once the critical faculties of the mass have been blunted by unrestrained indulgence in hate and fear of a common enemy—rationalized though this hate may be as "righteous indignation"—the majority of men will be prepared to overlook many incidents in the carrying on of a war or political campaign at which they might otherwise be inclined to feel moral scruples. Thus during the Boer War one London paper was accustomed to characterize the Boers as "cowardly and dastardly," as "semi-savage," as "filled with satanic premeditation."<sup>(7)</sup> By the use of this mechanism the readers of this paper were given a moral holiday, and though they were perhaps not prepared to "hit or kick during the fight" they were nevertheless given the opportunity "to spit" and to spit hard. As Montague remarks,<sup>(8)</sup> however, one cannot be happy in this latter arm of the service unless one feels sure that the adversary is signally fit to be spat upon. Official propaganda in the Great War made sure that all the inhibitions which society normally imposes upon the free expression of passion would be quickly removed by painting the enemy in the blackest of colours, by representing him as little less than a fiend straight from Hell—or Russia. Furthermore, when this policy of vilification



is supported by the recognized leaders of the thought of a country or by those who, through their possession of a certain literary or professional reputation,<sup>(9)</sup> are looked up to and admired by the masses, it is easy to get the latter into such a state of credulity that no "atrocities" story is too extravagant for belief. They will even go so far as to obtain real emotional satisfaction at the thought that their opponents boil down their dead for glycerine! In politics the same mechanism is at work. Innumerable elections nowadays are won on panics. Labour electors are frightened with tales of Capitalist exploitation, Conservative electors in their turn by the spectre of communism or red revolution or bolshevism.<sup>(10)</sup> The effect on the man is the same in either case. The public gains an outlet for pent up emotional forces; distinctions are blurred, criticism and reason is in abeyance.

Along with this process of blackening one's adversaries goes the parallel process of whitewashing one's own side. This is brought about by the use of idealism. Even though the causes leading to war in modern times may be entirely honourable and "above the board" (which in too many cases, of course, they are not), these same causes may be too complex and may go back too far into the past for the public to disentangle and see in the right perspective. Probably if so understood, they might not provide sufficient emotional "kick" to force the public to identify itself in a whole-hearted fashion with the prosecution of the war. Thus, just in proportion as the real causes of a war are of a prosaic nature, political or economical, is it necessary to blend the crowd with an aura of sublime and glowing idealism. What was once a love of Helen of Troy becomes a burning love for all humanity and hatred of the foe symbolizes a hatred of all the unrighteousness and injustice and oppression which he is supposed to embody.<sup>(11)</sup> During the Great War idealism changed an old-fashioned war devoid of spiritual aims, a war merely of material interest, into a Holy War—a War to end War, a fight for Trust and Tryst, a War to save Democracy, a War to Emancipate Europe from the Tyranny of the Mailed Fist. If this idealism seems pathetic to us now it must be remembered that in 1914 the tinsel and glitter was not yet tawdry. It served to turn the intolerable acceptance of the war, for no other reason than that of "being in," into a war towards the final winning of which no sacrifice was deemed too great.

Closely allied again with this use of idealism is the use of symbolism. The great function of the symbol, from the point of view of propaganda, is that it serves to coalesce conflicting opinion, and to become an instrument of group

solidarity. The symbol, be it flag, badge, uniform, or lay figure, is something tangible, which, by standing for an institution or organization, often vague and shadowy, holds the group together through the indefinite emotional aura which surrounds it, and which exerts a strong pull on each member of the group.<sup>(12)</sup> Thus the symbol for extreme radicalism is the red flag; another political party may make a prominent display of the Union Jack; the Fascismo recruit feels himself a member of a great organization when he dons the black shirt; finally revolutionary leaders often avail themselves of the traditional symbolism of the group they desire to lead. Thus the symbol of anti-British propaganda in India today is that of Ganesh, the elephant-headed God, whose festivals and legends are skilfully exploited to stir up hatred of the foreigner.<sup>(13)</sup> This use of symbolism may be crystallized by the use of slogans and other catch phrases to be bandied about among the masses—phrases which seem to mean so much but which, when subject to examination, are often found to mean nothing at all. China today provides an extreme example of the effect of slogans upon the national life. Ebullitions such as “Down with Imperialism,” “Give Back the Concessions,” “Smash the Reds” *et cetera* have very powerful influences, owing to the fact that the Chinese (not alone among the peoples of the world in this respect!) have a superstitious reverence of, and profound admiration for, the printed word. With half a dozen hand-bills to urge its support, the average Chinese are all but won over to a cause. Modern advertising technique has also recognized the value of idealism, symbolism and slogans in the formation of favourable attitudes towards a class of goods. Couple a brand of soap or tobacco with a great name and your fortune is already half made!

Other methods which play a part in the dissemination of propaganda are those utilizing the appeal that a great personality makes upon the credulous; those embodying the use of suggestion and repetition, and finally those depending upon the use of the censorship. A few remarks may be made upon the latter before I pass on to the next section of this paper. It is no extreme statement, I think, to say that without censorship there can be no efficient propaganda. At no time is this more a truism than in war time. Under the stress of great dangers the only workable maxim seems to be: “Evil of the enemy, good of one’s own side.” The authorities ensure that this state of affairs shall be universal by keeping tight control over the agencies of communication within the nation—the press, wireless, cinema, pulpit *et cetera*—and by seeing to it that every particle of news goes through

the censor's sieve before it reaches the public. Thus news from the front is issued in the form of "official communiques" which serve to build up an unreal picture of the battlefields.<sup>(14)</sup> *The Westminster Gazette* set on record an interesting commentary upon the activities of war time censorship when it remarked that one of its articles had been recently returned from the censor with "excisions which, by excluding all qualifying or critical passages, so change the meaning of what remains that we have decided not to publish it."<sup>(15)</sup>

Even social reformers, dreaming of schemes for world regeneration, have been constrained, when the time came to realize their plans, to crush all opposition with the mailed fist of the censorship. The Soviet and Mussolini—in all other respects poles asunder—have this use of the censorship in common. For neither in politics nor in war can a unified opinion be formed in the minds of the people so long as both sides of the case are fairly presented. To form this opinion everyone must look at the world through the same coloured spectacles. The censorship is one of the most effective methods whereby the propagandist can be assured that this will be the case.

#### IV.

Before going on to deal with some of the aspects of the social problem involved in the widespread use of propaganda, brief mention—in fact, it can barely be more than an enumeration—may be made of what might be termed the media of propaganda—the vehicles through which the ideas which the propagandist wishes to inculcate are disseminated through the country. Such ideas are diffused most widely through the influence of printed material such as newspapers, pamphlets, leaflets *et cetera*. Emotional appeal is gained by the use of "yellow" journalism, various types of "stunts," large type headlines designed to give a mental bias to the assimilation of the news they are presumed to summarize; and, since in many countries today newspapers are often grouped together in combines, it is comparatively easy for such newspapers in subserving the interests of financial oligarchies, to reach all classes of society.

Wireless broadcasting is a further potent medium. In the future it will probably become, *par excellence*, the instrument for the spread of government propaganda. Indeed, evidence is not lacking that even in its present more or less undeveloped state, governmental authorities have realized its possibilities in this direction.<sup>(16)</sup> The film and the cinema theatre are also valuable weapons in the task of forming opinion; all the more because the message they carry often



strikes home when the patrons of the film are wrought up to a state of emotional excitement which is only too favourable to the acceptance of suggestion. There is a certain truth in the statement that the ideas in the films affect "the largest possible number of the silliest people in their silliest moments." An offshoot of the films which is likely to be utilized more and more in the future, is that of the phono-film; and in this connection it is interesting to observe that the British Conservative Party has acquired the sole patent rights for the use of this invention in Great Britain as an instrument for the purposes of political propaganda.

Mention must be made also of the power that is inherent in art to form opinion. Literature, both prose and poetry, music, the plastic arts *et cetera*, may all become vehicles of propaganda.<sup>(17)</sup> Did not Plato recognize how influential art forms might become in the formation of opinion and belief when he provided for the rigid regulation of all art in the ideal state? Specially did he fear the poets with their "beautiful lies," and the most suitable fate for such artists, Plato considered to be exile. And there is more than rhetorical exaggeration in the saying: "Let me sing a country's songs and I care not who makes her laws." Art forms would appear to appeal more to the educated classes in a community; but even with this limitation there are few more effective media for the spread of propagandist ideas.

There is lastly the power of verbal persuasion, by which I mean the influence of all types of oratory—whether of the hack politician or the fashionable clergyman, the unionist agitator or the popular lecturer—in the propagation of ideas through emotional appeals. Here the factors that count are the personal prestige of the speaker and the prestige of the crowd surrounding the individual as he listens to the speech. This type of appeal has little effect upon the educated classes; for them it is usually much too crude, too violent and too direct. But upon the masses it has an instantaneous effect, and he is anything but weak minded who is not influenced in some way or other by the conscious appeal of the orator and the unconscious appeal of social suggestion.

## V.

I wish now to touch upon the social aspect of the problem and to consider what effects the use of propaganda as an instrument of social control has upon the interaction of individuals in society generally, and upon the mind of man in particular. The present is peculiarly the time for this, for the Great War provided us with an unparalleled example

of people living under an almost continuous bombardment of propagandist missiles for four or five years; and now the war has receded far enough into the past, and war passions have cooled sufficiently, for the observer to be in a position to take a more or less impartial view of the world of unreality in which so many millions of people lived for so long a period of time.

A war which lasts for a considerable period, which arouses violent feelings in the combatants and which is finally ended only after both sides are practically exhausted, is bound to leave a legacy of moral and economic disturbance to the world. With the economic upset I am not concerned. But the resulting moral upheaval proved to us once more that there is a good deal of truth contained in Dr. Johnson's famous remark: "In war time a people only want to hear two things—good of themselves and evil of the enemy. And I know not what is more to be feared after a war, streets full of soldiers who have learnt to rob or garrets full of scribblers who have learnt to lie." The case today after a war in which propaganda was particularly rampant is much the same as Thucydides noticed happening to ancient Greece after the Peloponnesian War, when he tells us "that, so far as veracity, public and private, went, people had become so used to distortion and misrepresentations of the truth that it was almost impossible to return to peace standards." Upon the philosophers in our trenches the same effect has been set forth in these words of C. E. Montague: "They act in a new world that they foresaw, and the man whose word you could trust like your own eyes and ears eight years ago, has come back with the thought in his mind that so many of his comrades have expressed: 'They tell me we've pulled through at last all right because our propergander dished out better lies than what the Germans did. So I says to myself: "If tellin' lies is all that bloody good in war, what bloody good is tellin' truth in peace?"'"<sup>(19)</sup> Is not the logic unanswerable?

As upon the moral, so upon the intellectual habits of a people the influence of propaganda is detrimental to the development of reason in the ordering of the individual life. The cause of this is not far to seek. If propaganda is to have any effect in the matter of forming the opinion of the masses, it is of little use throwing it into an intellectual form or arranging it in arguments that will lead to a definite conclusion. That propaganda succeeds which appeals most effectively to the irrational side of man's nature and so, instead of a people being trained to apply reason to the solving of modern problems, they are trained to habits of

slipshod thought, to habits of easy rationalization and decision based upon emotion. Since almost all the great disasters of politics come from the fact that people hold their opinions excitedly, propaganda becomes an evil of the first magnitude. The evil itself is almost independent of the opinions advocated however, because it consists in the passion which it causes to be associated with them; and unless the world soon awakes to the fact that industrialism and education have given clever men vastly increased opportunities of producing collective excitement with all its consequent evils, then the outlook for civilization is a sorry one indeed. People fall ready victims to propaganda because by so doing, they are relieved of the trouble and responsibility of thought; the life of instinct and emotion is an easy flowing one, while the life of social restraints and reasoned decision is harder and more difficult to live. Only when people realize the folly of leaving the direction of their lives in the hands of unscrupulous propagandists and realize that in the long run the hard path is the only right one—only then may we set democracy upon a firm and lasting foundation.

Another evil still, in the use of propaganda as an instrument of social control, lies in the fact that it gives an unfair advantage in the matter of influencing public opinion to those who are in a position to obtain most publicity through their possession either of wealth or of power. In large measure, the days are past when the leaders of a country are those who excel in virtue of public service and private worth. Power and leadership today go to the man with money to support his cause. In a hypothetical case: if two interests with equally good, or equally bad, proposals decide to try to foist these proposals upon the public, it is almost certain that those of the interest that has a million pounds to spend on propaganda will become more widely known and will form opinion to a greater degree than those of the other interest which can spare only a hundred thousand pounds on propaganda. This situation, with all its consequent evils, is intensified when one interest is the government of the country, for then its power is practically unlimited, while at the same time it can keep a careful watch on opposing minor propagandas and, if necessary, suppress them with a vigorous hand when they appear to be becoming dangerous. Complete monopoly of propaganda is not necessary, however; it generally suffices that the advantages of government propaganda over its opponents—its control of official wireless stations, its ability to print special newspapers in times of crises *et cetera*—will be enough to give such propaganda a complete victory.



Of war propaganda in particular little need be added. The best that can be said for it is that it helps to develop in the world a spirit of spurious and mistaken idealism. Any history of the development of thought points out clearly the harm that good men may do when they believe so sincerely in the rightness of their principles that they are prepared to go any lengths in enforcing these principles upon the world. Religious bigotry is an extreme example of this. But it occurs likewise in war time through the operation of propaganda, with the result that the propagandist world is as far removed from reality as exaggeration can make it. War propaganda develops too a feeling of spiritual numbness among a people. Any uneasiness that may be felt at the behaviour of military superiors in Egypt or in Ireland or in China is quietened by the thought that such things must be left to "the man at the top." Propaganda provides specious rationalizations to bolster up their attitude, or better still it uses the censor to provide its own highly decorated version of the truth. The result is a loss of faith in one's fellow citizens, a poisoning of the wells of human feelings, a profound deadening of the spiritual life; and the legacy the propagandist war leaves to the world is this: cruelty masquerading as righteousness, cynical deception as justice. Men lose their capacity to distinguish one from the other. As for truth, Montague puts the case plainly when he writes: "The truth of these days is not that which really is, but what every man persuades himself; or that he is made to believe; as we generally give the name of money, not only to pieces of just alloy, but even to false ones, if they are current and will pass."

## VI.

It is inevitable in any consideration of propaganda to raise some time or other the question as to whether there are any social forces through the operation of which the evil effects of propaganda upon society may be combated and, in the end, overcome. For we have to recognize that within the life of the generation now in control of affairs propaganda has become a self-conscious art and a regular organ of popular government, under whose powerful impact the old constants of political thought, the old idea of democracy, and the nature of man have suddenly become variables. In the original dogmas of democracy we can no longer have unshaken faith. Where we do, we expose ourselves to self-deception, to forms of persuasion that we cannot verify. No longer can we rely upon intuition, conscience, or the accidents of casual opinion, to enable us to deal successfully with the

world beyond our reach. The old standards are failing. What then are the instruments wherewith to build the new?

First is the weapon of social experimentation. Within the field of social relationships what is needed is the work of the experimental, enquiring type of mind, the mind which is not content to accept the world on trust, but which is impelled by an active curiosity to inquire into the way society may be best organized so as to bring the maximum of happiness and freedom to the individual. In taking up the challenge of propaganda such a mind, nurtured on the experimental attitude, will refuse to order its life on face values. It will go behind the scenes, as it were, and consider the influence of propaganda upon the structure of society. It will strive to discover the bitter pill overlaid with the sweet propagandist coating. It will judge propaganda by its works and this will eventually develop a fairer, more truthful society. A further potent weapon is education. What the world needs today is not a training of the young which is based upon the desire to develop standardized Robots, which is based upon the principle of identity, but an education which is based upon the principle of difference,<sup>(20)</sup> which would consist in an intelligent direction of innate equipment, of impulses and emotions, in the light of the possibilities and necessities of social needs. W. H. R. Rivers wrote of this new education thus: "The sum of education is not to inspire blind confidence and faith, but to fit men and women to deal with the situations of life, and especially with those situations with which they are confronted as members of a society so complicated and so full of difficult problems as our own."<sup>(21)</sup> The qualities that such an education would develop would be those I may call the obligation to be intelligent, the will to truth, the will to doubt; and other qualities still: courage, sensitiveness, open mindedness, tolerance, the sense of human worth, the spirit of liberalism, of sympathy, understanding, vitality. Education would be subordinated to no other ideal or aim than that of treating the individual as an end and never as a means. In place of a world actuated by misguided passion and greed and meanness we might hope for a world instructed and educated, where each mind had the utmost enlightenment of which it was capable, where all would be living in the light of self-examination and mutual criticism. Ultimately it is only in an atmosphere which means freedom from prejudice, scepticism without cynicism, in short, intelligence, that the evils of propaganda will be effectively discounted.

It is here that the new psychology can contribute its share to any campaign for freeing the mind of man from

bondage to propaganda. What is required is the wide diffusion of those principles which psychology has shown us to be the foundations of human conduct. It is precisely because these principles, as yet, have not been sown broadcast, but have been the exclusive possession of either the unscrupulous politician or the studious dreamer, that human nature is being exploited so easily as at present. When, however, the popular mind is familiar with the means by which it has been duped, it is not beyond the bounds of possibility that there will be an end to mob thought. A vivid acquaintance with the irrational, distorting factors of thought, with the "complex," the rationalization, and unconscious motivation, particularly an acquaintance with them as we find them a part of our own personality, will tend inevitably to make us less sure of our ardent loyalties. It will tend to make us critical of the manner in which social judgments are formed and so will lessen the easy reverence with which we are all more or less inclined to pay to the social convictions and conventions of our age. We may hope, too, that as this understanding of the importance of self-knowledge and self-reliance becomes a part of everyday affairs, much of the impenetrable sacredness that has hitherto surrounded the forms of group interaction will be dissipated, and that there will be applied to social institutions the same rigorous experimental analysis that now prevails when we deal with physical and mechanical matters.

The possession of this psychological knowledge, however, must be allied with a free publicity. Control of propaganda through muzzling of the press, censoring of literature, drama and the cinema is the sure and safe method of putting propaganda into the strongly organized and socially destructive clutches of self-interested individuals or parties. To conserve the possibility of fighting for what is right we must first of all conserve and guarantee the power to fight. To this end newspapers and news agencies must be free from financial control; journalism must be raised to the status of a profession and instead of serving old interests, it must realize that it has specific responsibilities towards the public in the matter of truthful news and honest opinion.

The operation of these social forces whose nature I have sketched above would go far to counteract the evils of propaganda; it would go far to rebuild society on saner and more tolerant lines. But such a society will not come about automatically, for the very reason that there is nothing inevitable about progress. It will only be realized when the world in general awakes to its degrading exploitation and consciously determines to sweep the old evils into the lumber



room of the past. As a rule, I am no great believer in Utopias. The state of society they portray is usually so far removed from the perfections of the here-and-now which they are designed to remedy that they fill one, not with fervent hope, but with blank despair. But I do believe that there is room for improvement in society as it exists today, and I do believe that by hard thought and still harder work it would not be beyond the bounds of possibility to create a world in which there was an equal measure of justice, truth, goodness and beauty for all. One of the virtues of a study of propaganda is that it makes one thoroughly dissatisfied with a world that is credulous and ignorant enough to tolerate its growth. In this discontent lies the hope of better things.

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- (2) Bertrand Russell: "Prospects of Industrial Civilization," pages 216 to 217.
- (3) *Encyclopædia Britannica*, XII Edition, Supplemenetary Volume III, page 176.
- (4) Knight Dunlap: "Social Psychology," pages 247 to 248.
- (5) Dating from Darwin's "The Descent of Man," published in 1871.
- (6) Cf. Norman Angell: "Human Nature and the Peace Problem."
- (7) Cf. Angell: "The Public Mind," page 75.
- (8) C. E. Montague: "Disenchantment," page 93.
- (9) Cf. Hicks: "The Parsons and the War," *American Mercury*, February, 1927. Angoff: "The Higher Learning Goes to War," *American Mercury*, June, 1927. I. C. Willis: "How We Went into the War."
- (10) Specially was this the case in the British general strike of 1926. Cf. Kingsley Martin's book: "The British Public and the General Strike."
- (11) Cf. Dewey: "Human Nature and Conduct," page 114.
- (12) Cf. Lippmann: "Public Opinion," page 234.
- (13) Cf. Valentine Chirol: "India," page 100 *et seq.*
- (14) An interesting account of the activities of the French military censorship is given in Pierrefeu: "French Headquarters," pages 62 to 63.
- (15) A defence of the censorship is that of Sir Edward Cook: "The Press in War Time."
- (16) This was specially evident in the use made of wireless by the British Government during the course of the general strike of 1926.
- (17) Comments on the use of literature as propaganda may be found in the editorial notes of Wyndham Lewis's review: "The Enemy," No. 2. On the use of the plastic arts cf. Fulop Miller: "The Mind and Face of Bolshevism."
- (18) "Thucydides," Book III, page 242, Jowett's translation.
- (19) C. E. Montague: "Disenchantment," pages 217 to 218.
- (20) Cf. Graham Wallas: "Our Social Heritage," page 94 *et seq.*
- (21) W. H. R. Rivers: "Psychology and Politics," page 105.

## UNIFICATION OR SELF-GOVERNMENT?

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THE proposals placed before the Royal Commission on the Constitution would appear to fall into two main categories: those which seek to augment the powers of the Federal Government at the expense of the States, and those which would rigidly limit the Federal Government and strengthen the States. Much of the argument supporting these proposals is incontrovertible, but protagonists in each case fail to recognize, or at least they slur over certain fundamental considerations. For example, what have those advocating enhanced Federal powers to say about the way those powers will be administered? They vigorously support the Commonwealth controlling Main Roads. Will they be equally enthusiastic if the administrative policy results in duplicating State or Municipal machinery, as has been the practice hitherto of the Federal Departments? On the other hand, have State-righters considered how finance must bring the States under the tutelage of the Commonwealth?

It seems to the writer that, from the conflict of opposing interests, there can be found a *via media* which will enable the Commonwealth to assume control of matters which are of National importance (and it is increasingly difficult to say in what the Commonwealth is not interested), and, at the same time, to conserve and strengthen all that is best in the State and Municipal areas. The last Referendum showed that the conference of powers is hardly as important as the methods in which the powers will be exercised. In what follows an attempt is made to indicate the *via media*.

While there might be an immediate economic gain from the introduction of a system of unification, it is felt that such a change would result in a distinct loss in terms of citizenship, in confusion between national and local interests, and in a serious congestion in the Commonwealth legislature. Let me briefly amplify these contentions.

It is admitted that there has been a remarkable development of Australian sentiment in recent years, and a disposition in some quarters to think that a contraction of the powers of the States will automatically enhance the prestige

of the Commonwealth. The framers of the Constitution deliberately adopted a different and, it is believed, a wiser policy. They allocated national and international functions to the Commonwealth, and domestic questions to the States. They wished to avoid the danger that social and industrial questions would make inroads disproportionate to their importance in the Federal Parliament. Already pressure of these matters is having a tendency to do this. It would not be wise for the Federal legislature to have its Order of Business so cluttered with domestic problems within the competence of the States as to preclude a proper consideration of the urgent questions of defence and international relationships, or the involved problems of finance, or the methods by which the Commonwealth may become the leader and guide of the States. The distribution of functions under a Federal system allows the Commonwealth the opportunity for real leadership in national questions, while permitting the States the fullest freedom for the working out of their own domestic problems. National as well as local interest is best served by conserving local freedom and initiative, and encouraging central leadership. The present constitution hinders the complete realization of this, but the Commission may be able to indicate how these hindrances can be removed without destroying the Federal scheme.

Even if it were possible for one Parliament to frame and consider legislative measures necessary to the needs of today, in a very short time this would be impossible if the development of Australia reaches our expectations. For the past forty years, the opinion has been expressed again and again in England that the congestion of international, national and local questions in the Imperial Parliament results in a neglect of vital matters in each of these fields. The House of Commons is elected on one or other of these issues, and to keep faith, it has to slur over or entirely neglect others. One could repeatedly instance domestic matters, *e.g.*, in the field of education or local government where Parliament has dealt with the questions perfunctorily, or has entirely shelved them. Is there any reason why Australia should be immune from such difficulties? Even in New South Wales, Parliament has not had time in the past fifteen years to deal with, *e.g.*, a Constitution for Greater Sydney, or a Town Planning measure.

Can it not be established also that the idea of unification runs counter to the existing tide of political philosophy? Whatever we may say of the doctrine of self-determination, there is no doubt that it stands as a protest against both political and administrative centralization. It sees in cen-



tralization a tendency to restrict the political education of citizens in the actual exercise of government.

There is abroad everywhere, as a result of the teaching of economics and politics, a restlessness among the younger generation which exhibits itself in a desire to have scope to give effect to their ideas. If there were but one Parliament and one civil service, even with small local self-governing communities scattered throughout the Commonwealth, those opportunities would be more restricted than they are today. We deplore the drift to the existing political centres and the big cities. They are magnets which attract from the countryside much of its wealth in ability and youth. It is apprehended that the position would be seriously aggravated under unification. Is not the primary problem of constitution-making so to distribute the powers and functions between the different political agencies and administrative areas that we shall at once evoke the fullest effort on the part of all and secure the greatest development by the various agencies operating with the minimum of friction and the maximum of efficiency?

With unification it would, of course, be possible to grant such a measure of local self-government as would constitute a considerable acceptance of the doctrine of self-determination. Where districts have been sufficiently developed, real local self-government might be conferred. Too much of Australia is insufficiently developed, however, to do this, and the alternatives would be administration by agencies similar to the Western Land Board of New South Wales, or those of North and Central Australia. Does the experience of the Commonwealth administration of Northern Australia inspire one to entrust other Territories to it? Even if it did, the price would be too great to pay for disturbing the Federal system, under which the care of the less developed areas is divided amongst all the States affected.

The problem of the constitution of agencies, and the demarcation of areas between those agencies is now complicated in Australia, and probably always will be, by the conflict between Federal and State sovereignties. If this could be reduced (can it be eliminated?), it would be possible to view the problem of administration in the light of the interests to be served, and not in the light of abstract claims to this right or that authority. Had the early Ministers of the Commonwealth or their expert advisers had the necessary vision and a true regard for the taxpayers, they would hardly have foisted upon them the present elaborate Federal departmental organization. It is an entirely indefensible squandering of resources, and makes the burden of government much heavier than it otherwise need be. When the

sphere of the Commonwealth was restricted by the force of circumstance (and strictly confined by High Court decisions), it did not matter, but since the war the Commonwealth has been adventuring into fields which were not contemplated earlier, but which are likely to be ever extending. From pensions to roads, marketing to lighthouses, health to housing—in every direction there is the itch to set up separate Federal organizations, many of which overlap, and very few quite displace, the agencies which had been working in the State areas. It becomes imperative, therefore, to review the system, lest the burden of government become disproportionate to the services rendered.

Briefly, it is suggested that the Commonwealth should not have done more than set up skeleton supervisory staffs, and left the actual administration to State Departments, which, for the specific purpose, would have been Commonwealth agencies as well. What we have done in the field of income tax in New South Wales ought to have been done with electoral rolls, pensions, statistics, lighthouses, health *et cetera*.

Governmental operations in Australia are susceptible of a threefold classification. There are those which belong exclusively to the Commonwealth, *e.g.*, defence, international relations, customs, posts, and which ought to be administered from a common centre. There are others which, while Commonwealth wide in their nature, may, in their application, be tempered by the needs of the locality, *e.g.*, public health and education, and there are those which are peculiarly local in character, *e.g.*, those which we ordinarily assign to municipal authorities.

If we glance at England we will find that the Central Government administers directly such services as defence and posts; for services such as education and health, which it regards as national, the administration is by local authorities subject to central supervision and guidance, and then there are the distinctly local services which the municipal authorities administer subject only to general oversight in matters of audit, loans *et cetera*.

For the first class the English Government recruits its own staff, and meets its own bill of costs; for the second, it does not recruit its own officials, and only makes a contribution to the cost, for the matter is of local concern as well as national; and, for the third class, it neither appoints officers nor makes any contribution to the cost.

The English system is decentralized administration and its chief method of control of national services locally administered is through the grant-in-aid for the performance

of duties, which entitles the central Government to inspect, audit, suggest and sometimes command.

The German system is somewhat different. As with us, there are three authorities to consider: the Federal, the State and the Local authorities. The Federal laws are, in very few instances, administered directly by a Federal staff. For example, Customs duties are collected by State officials, industrial laws, framed by the Federal Government, are administered by State officials. But, by reason of the hierarchical arrangement of authorities, the local officials act in all three capacities, *i.e.*, they are Federal, State and Local officials at one and the same time. For example, in an important city the Magistrat would be responsible for the administration of all three types of functions. This system has the advantage of correlating all the activities of government, limits the expense, and reduces friction between competing authorities to a minimum.

The German system has much to commend it if we had a uniformly intensive development throughout Australia; but since this is not so, the English system might readily be related to the situation of the Commonwealth. The Federal Government exercises a direct administration over Posts, Customs and Defence, but is there any reason why it should administer directly all its services? It must have its own Treasury, its own Legal Department, but most of the other Departments might be administered by State officers subject to financial assistance from the Federal Government, and subject to inspection, audit and suggestion as to standards and policy. The Federal Government should lay down the policy, and that could be administered by local officials. There is no reason why the sphere of either should be exclusive or competitive: it ought to be complementary. The aim should be the fullest activity possible. It is as much to the interest of the State as the Commonwealth, that health, roads, markets *et cetera* should be conserved and developed. Federal funds could be allotted to this, conditional upon a proportionate State expenditure.

The system of taxation collection in Western Australia is a method which ought not to be followed. There the Federal Government collects for the State, and is paid a fixed sum by the State for its agency. This encourages the growth of the Commonwealth administrative machine and the contraction of the States. In New South Wales, the State collects, and the officers are both State and Federal. This is better, for it leaves the Commonwealth free from the anxiety of direct administration. Whether we consider industrial legislation, social legislation like pensions, housing and



health, the principle should be the same—local administration subject to Federal oversight. In this way it seems to me that immense savings would be effected and co-ordination secured. There is nothing to be gained by the present divergencies in legislative codes and administrative arrangements, which merely confuse and irritate. The central question is the service of the community, and this can best be done by concentrating the administration in one set of agencies.

If we adopted this policy we should eliminate overlapping in separate taxation departments, in the collection of statistics, the payment of pensions, motherhood endowment, and charitable grants, in the imposition of separate charges by the Federal and State Governments in respect of light dues. Similar considerations apply as between State and Municipal authorities.

What is urged is the need for cultivating real local self-government, and for fostering the sense of responsibility which comes from handling matters of major importance, as when Sir George Buchanan recommended home rule for our ports, even while accepting central direction and inspiration. If we had such a system, we should not be faced with the neglect to which the Commonwealth Public Service Board draws attention in its report for 1926, page 26, when it speaks of the shocking state of repair into which the quarters of lighthouse keepers had fallen in Queensland, or the deplorable housing conditions to which Sir George Buchanan refers in his report upon the Northern Territory.

If the States were divided into administrative districts where the development warranted it, a senior officer in each district could be made responsible for Federal, State and Local matters. He could have power to decide ordinary questions without reference to headquarters. Why can we not extend the system which we have devised with regard to Area Commissioners in the New South Wales Railways, or District Officers in the Postal Department, or Inspectors in the New South Wales Education Department, only instead of confining their control to one Department, it could be extended to embrace all governmental activities in a District? The range of responsibility would be no greater than that experienced in a central city office. One might enlarge upon unsatisfactory existing administrative arrangements in New South Wales. Federal and State Works Officers traverse the same ground, Federal and State Electoral Areas diverge, Works Districts do not coincide with Land Board Districts, Police Areas are different again, and within the Sydney Metropolitan Area scarcely an authority has the same administrative district. This is needlessly confusing.

Our objective, it will be seen, is twofold. It is sought to relieve the Federal Government of the strain which direct administration induces (for this tends to reduce the opportunity for leadership, inspiration and research), and to encourage to the fullest extent local initiative and responsibility in government. There are two sides to administration: to do, and to know what ought to be done. Those engaged in doing have usually little time to inquire whether what is being done, is being done in the best way. If the two functions were separated, there would be no likelihood that either would be neglected. According to a recent writer, Dr. Griffith ("The Modern Development of City Government"), who has compared the systems of the United States and England, it would appear that, in the past decade or so, since the American cities have acquired comparative freedom from legislative interference, the extent of self-reliance has considerably increased. In England, on the other hand, since central control has been tightened, there has been a noticeable lack of popular interest in problems of government.

The maximum efficiency can be achieved in administration if thinking is centralized, and if the Commonwealth acts so as to stimulate and encourage the States. This will require the conception of a partnership, which is now absent, and which will never be present if there remains an apprehension of Federal intrusion into State domains, and a fear that the Commonwealth will ever seek to aggrandize itself at the expense of the States.

In the United States, although the tendency, too, is for the Federal Government to invade State spheres, there has been a remarkable concentration upon conducting research and imparting information. For 1920 the Federal Government spent no less than fifty-seven million dollars on research, educational and developmental work. The United States Bureau of Education in 1921 published no fewer than fifty-three bulletins, the majority of which comprised studies in method or administration. And the President's Agricultural Conference in 1925 brought out clearly the conflict between the service functions of the Federal Agricultural Department and its law-enforcement functions. "Service functions consist essentially in the accumulation and dissemination of information and advice and assistance in putting this information into practice. Regulatory functions consist essentially in the interpretation and enforcement of laws and regulations designed to protect the interests both of producers and consumers of agricultural products." The Conference stressed the disastrous effects of combining these two functions in one bureau. The discharge

of one set of functions created an antagonism which destroyed the spirit needed to carry on the service functions. It was, accordingly, recommended that the two functions be completely separated both as to organization, personnel and action.

In England, also, the Board of Education has developed its research and information activities with beneficial results to the local authorities. It has its Consultative Committee consisting of persons qualified to represent the views of universities and other bodies interested in education, its Juvenile Organization Committee, its Adult Education Committee, its Salaries Committee, and so on.

In its Main Roads grant to the States, and in its proposed assistance to housing, the Federal Parliament has introduced a principle which could be extended to a large field. It indicates that the question of government is a joint enterprise with reciprocal duties and responsibilities in the national interest. But, if the partnership in this joint enterprise is not to be more than a sentimental expression, the duties and obligations must be deliberately undertaken, and neither government must do anything which will seriously embarrass the other.

Is it possible to develop this notion of partnership? In 1836, in his book on "The Statesman," Sir Henry Taylor wrote: "It is one business to do what must be done, another to devise what ought to be done. It is the spirit of the British Government as hitherto existing to transact only the former business." It is doubtful whether we have made any advance in the last hundred years. We might do so in Australia if we could determine that the chief rôle of the Federal Government was to devise what ought to be done, leaving the States and Municipalities to execute what must always be done from day to day. In such a case the Federal Government would not directly enter the administrative field to achieve its objects. For example, even where it has taken over the payment of pensions, or is contemplating taking over national insurance, or motherhood endowment, it would be preferable that it should use State agencies for the administration of these schemes, rather than set up its own departmental organization, save as a supervisory body. It will be found that in each State certain departments are still making grants to widows, necessitous persons, or to children under child welfare schemes. All these activities should be co-ordinated and this can best be secured by a common administration rather than by multiplying the agencies and distributing them between Federal and State authorities.



Where, however, the Federal Government is not responsible for the entire cost of the service as in the case of Main Roads, Housing, Agriculture or Marketing, the principle of making a contribution should be that it is dynamic, or directed to inducing the State or Municipal authorities to provide additional facilities, which, at the time, seem most necessary or most desirable. If the grant-in-aid is properly administered it can be designed to secure particular improvements, or an incentive to new endeavours, or to fill up gaps which have manifested themselves. Not that I think that each State or authority should share equally in the payments by the Commonwealth—this has been admitted in the cases of Western Australia and Tasmania, and it is explicit in the Main Roads scheme—but when assistance is granted, it should be on the basis of definite contributions to that purpose by the State or Local authorities.

There is a wealth of experience to help us decide the best way of making Federal grants-in-aid, if we will but collect it. The people of the Commonwealth must beware lest unification be accomplished by administrative act against their expressed political will. The dangers are too serious to be lightly disregarded. Centralization of administration means bureaucracy; bureaucracy means irresponsibility and the abrogation of civil liberties. Let us choose rather to foster and encourage local initiative and enthusiasm, which may be canalized and inspired by wise central suggestion and advice.

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## RESEARCHES AND REPORTS.

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### SUMMARIZED REPORT OF DISTRIBUTIONS AND INTER-CORRELATIONS OF BINET AND PERFORMANCE TEST-VALUES OBTAINED FROM SUBNORMAL CHILDREN IN A MENTAL SURVEY.

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#### II.

The average yearly advance in mental growth for these subnormal groups (according to their Binet age means) is about half a year of mental age, with the exception of the 14 year old group, which has advanced a whole year of mental age. More than half of this 14 year age group are delinquent boys. In this latter group the percentage of borderlines is markedly highest. The standard deviation increases gradually from year to year and fairly conforms in quantity to about a tenth of the mental age for each year of life, with the exception of the 11 year olds. In this age group 64% of the number gave a mental age of 7.0 to 7.99 years, and thus effected an excessive massing round about the central tendency of the mental age variations.

The amounts of the standard deviations (Binet) for the successive chronological ages in this group of subnormals are much smaller than those ascertained for the 428 children of similar chronological ages (see page 57),\* and somewhat smaller than those for the "Binet-Porteus" subgroup of 274 cases (see page 59).\* The group of 428 cases includes a fair sprinkling of normals and the ranges of variability for each age are more extended than in the other groups. Indeed, they compare closely with the standard deviations given by Burt for London school children.<sup>(7)</sup> The subgroup of 274 cases (which excludes many normals and lower grade subnormals of the 428 group) shows a less extensive range of variability, and the standard deviations correspond somewhat with Burt's figures for London special class children. But the variations in the amounts of the standard deviations of this group of 210

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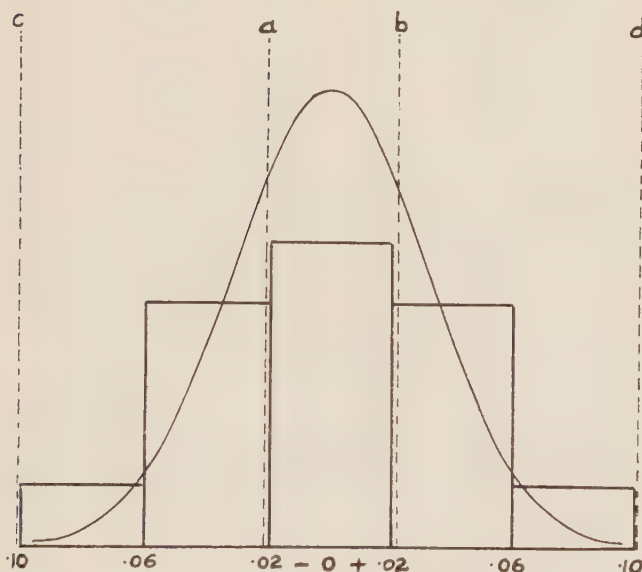
\* The standard deviations given in table on page 57 and in table at end of page 59 were inserted as an afterthought for the purpose of the comparison made above. The means from which they were calculated are almost the same as the medians given in the tables. For Table No. 1 (p. 57), the means are 7.0, 7.3, 8.0, 8.3, 9.2; and for Table No. 2 (p. 59), they are 7.0, 7.3, 8.1, 8.3, 9.1.

# SUPPLEMENT TO PROFESSOR MORRIS MILLER'S ARTICLE.

DISTRIBUTIONS OF TETRAD-DIFFERENCES CALCULATED FOR  
THE CORRELATIONS.

## PLATE I.

FIGURE I.—FROM TABLE 1.

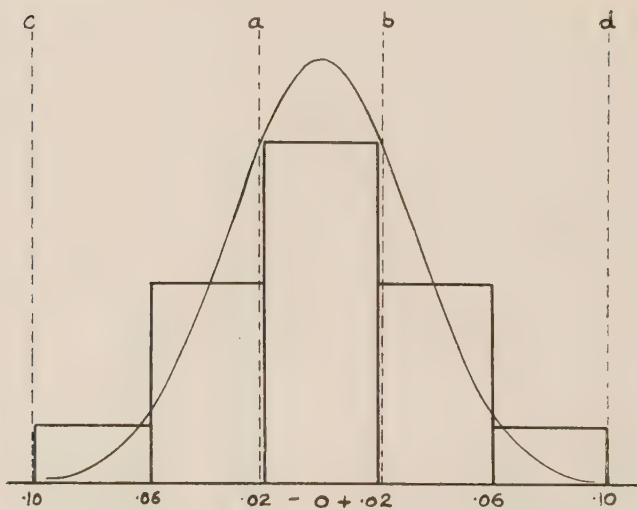


Probable error = .021. Observed median = .031.

*Note.*—The curve indicates the theoretical distribution in terms of  $g$  and  $s$ . Half of the cases fall between  $\pm 1$  P.E. ( $a$  to  $b$ ) and none beyond  $\pm 5$  P.E. ( $c$  to  $d$ ). The rectangular columns indicate the observed distribution. "The criterion as to  $g$ ," says Professor Spearman (*Jl. of Educ. Psych.*, Jan., 1928, p. 15), "does not consist in seeing whether the distribution is 'normal,' but in seeing whether this observed distribution does or does not show a greater *scatter* than is possessed by a normal distribution having the same area, but having its scatter determined by the theoretical probable error of the tetrad differences."



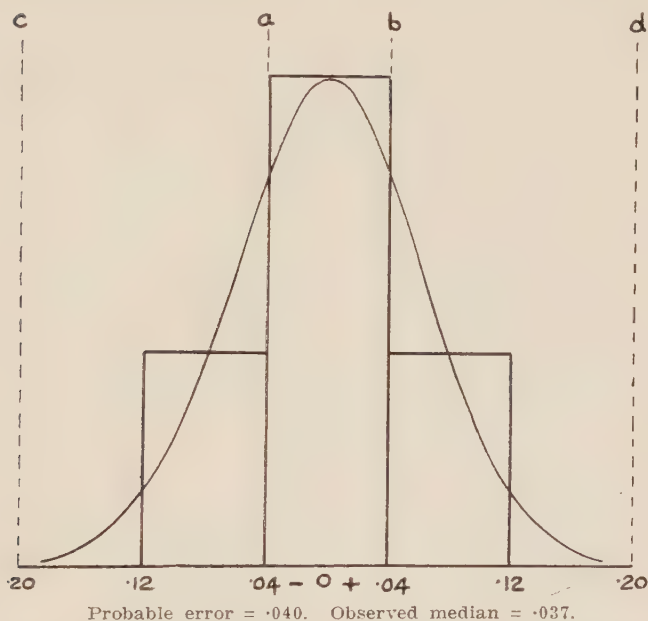
FIGURE II.—FROM TABLE 2.



Probable error = .022. Observed median = .028.

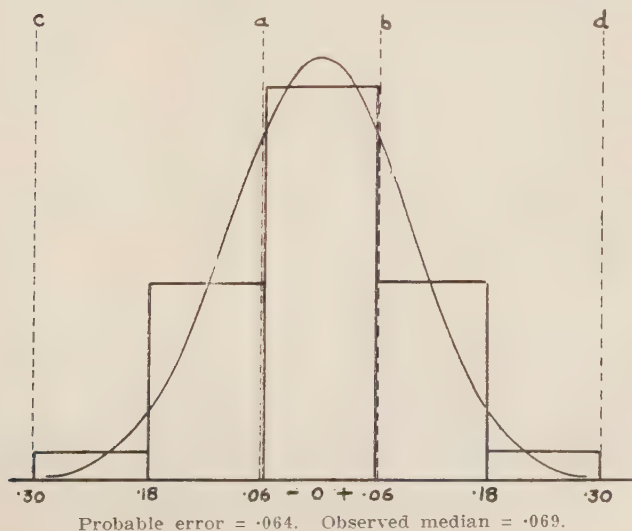
## PLATE II.

FIGURE III.—FROM TABLE FOR 11 YEAR OLDS (BOTH SEXES).



*Note.*—Similar distributions are obtainable from tables of correlations for the 12 and 13 year olds (both sexes).

FIGURE IV.—FROM TABLE FOR 13 YEAR OLD BOYS.



# PLATE III.

FIGURE V.—FROM TABLE FOR 12 YEAR OLD BOYS.

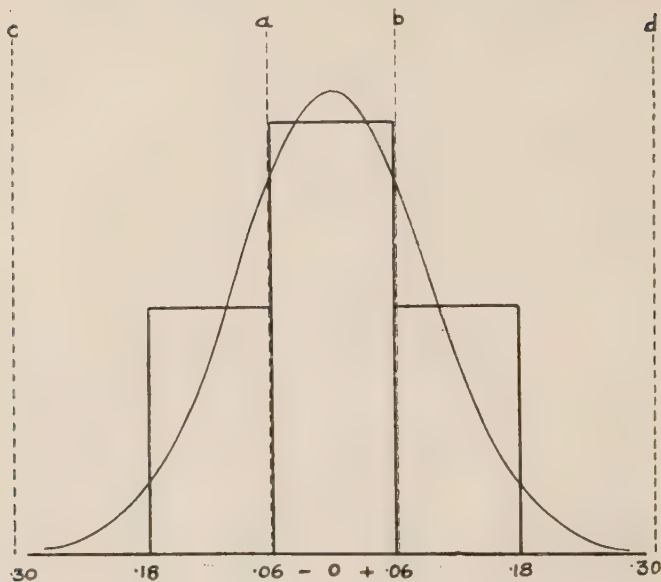
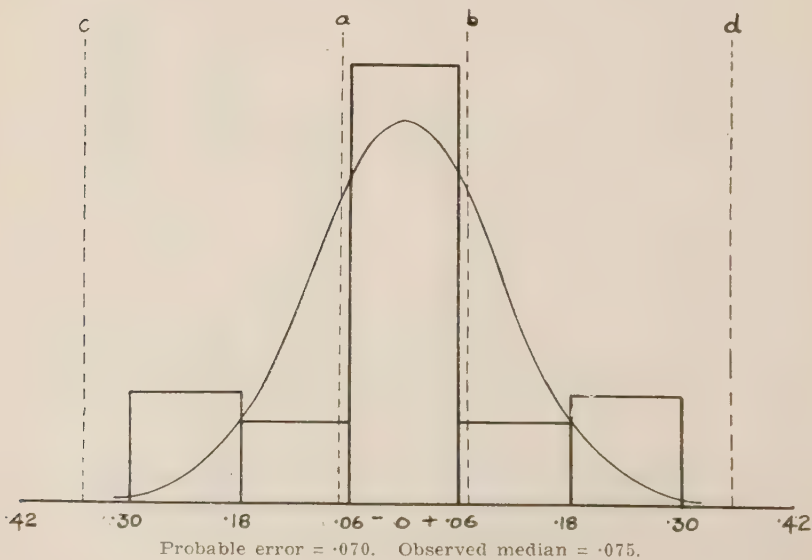


FIGURE VI.—FROM TABLE FOR 11 YEAR OLD BOYS.





cases depart considerably from those ascertained by Burt for the same chronological ages. Still, in these three Tasmanian groups, there is generally indicated a gradual increase in amount from year to year, though the amounts of increase for each successive year are smaller. The results certainly accord in a general way with the findings of other investigators that individual differences in intelligence tend to increase in amount with advancing years; although in this group of 210 Tasmanian subnormals the amounts of variation are not as large. But we cannot say that in this group we have attained a random sample of subnormals, for we have merely tabulated the records of consecutive examinees over a period of two to three years, who happened to be tested in the five tests here reported on. And, as we have pointed out, some 30% comprise individuals not included in the 736 cases from which the other two subgroups of 428 and 274 cases have been selected. We have obtained these 210 individuals by a process of intensive selection during a mental survey for a specific purpose, and it is clear that their range of variability in the Binet examinations is considerably less than that for normals and even unselected numbers of subnormals. Still, on the whole, we may affirm that the variations indicated are not in marked disagreement with what has been ascertained elsewhere, especially in reference to the observation that individual differences among children tend to increase with the advance of years.

*Performance Tests.*—In the following table there are given for this group the median times for the Healy A and mare and foal tests and the median scores for the Healy I.

Years.	Healy A. Seconds.	Mare and Foal Seconds.	Healy I. Score.
10	dnc.	54	100
11	dnc.	41	200
12	250	38	266
13	130	33	283
14	110	35	325

As compared with the time and scores for these performance tests recorded for over 350 subnormals, this selection of children makes a showing somewhat better in the mare and foal, poorer in the Healy A, and about equal in the Healy I.

According to the Pintner-Paterson norms (which do not appear to be "too high" for Australian children), the "mental

ages" for the three performance tests have been calculated, and tabulated in comparison with the Binet and Porteus mental ages as follows:

Chrono-logical Age.	Binet	Porteus.	Average of all four performance tests.	Average of 3 performance tests (excluding Porteus).	Mare and Foal.	Healy I.	Healy A.
10 years	7.0	7.5	6.9	5.6	7.7	5.9	4.6
11 years	7.5	8.5	7.8	7.6	9.5	7.0	4.6
12 years	7.9	9.0	8.6	8.6	10.4	7.8	7.2
13 years	8.5	9.3	9.4	9.8	12.75	8.25	8.5
14 years	9.5	10.4	10.0	10.0	9.75	8.75	9.0
Whole 12.4	8.04	8.97	8.5	8.3	9.2	7.6	4.8

A perusal of this table shows again in a general way that subnormal children obtain a better quantitative result on performance tests than they do in the case of tests requiring linguistic ability. Other noticeable features are the similarity of achievement as determined both by the Porteus and the average of the performance tests as a whole, and the variability in achievement of the single performance tests which the averaging partly removes or disguises. It is generally admitted that it is better by far to give a series or "battery" of performance tests than one or two, owing to the marked variation in the responses of individual examinees due to a variety of reasons apart from mere subnormality of intellectual development, such as emotional disposition at the time, want of familiarity with the material setting of the tests, etc. The utility of averaging a series of performance or practical tests and comparing the average with the Binet or Porteus scales will be shown in the correlation tables which follow.

If we graph the mental age distributions for the Binet and Porteus scales as well as for the average mental ages for the three individual performance tests, we obtain a fairly symmetrical bell-shaped curve for the Binet ranging from 5 years to 10 years; but for the Porteus and performance average the range extends from 4 years to 14 years and the curves show a succession of plateaux gradually declining towards the upper limits. If the raw scores or times of the three individual performance tests be graphed, we notice in

each instance a marked rise at the lower limits, with long trailing lines rising and falling more or less towards the upper limits which rise suddenly. Here again we meet with an unevenly graded distribution of abilities in the results of performance tests.

### CORRELATIONS WITH CHRONOLOGICAL AGE.

We now submit a series of coefficients of correlation which have been worked out according to the sum-product (Pearson) method. The correlations between chronological and mental ages for the various tests given to these 210 children are as follows: <sup>(8)</sup>

C.A. and Binet:	0.67.
C.A. and Porteus:	0.38.
C.A. and Healy I:	0.31 (Scores, 0.35).
C.A. and Mare:	0.27 (Time, 0.21).
C.A. and Healy A:	0.34 (Time, 0.33).
Average performance:	0.45.
Average performance (excluding Porteus):	0.46.

Other comparisons of correlations between chronological age and various tests are:

#### *Binet—*

428 cases, C.A. 10 to 14 years, including all mental levels .. .. .	0.45
274 cases, do. .. .. .	0.47
405 cases, all ages and levels .. .. .	0.47

#### *Porteus—*

274 cases, C.A. 10 to 14 years, all mental levels ..	0.41
405 cases, all ages, all levels .. .. .	0.41

#### *Performance Tests—Subnormals, mainly all ages—*

Seguin (Time): 365 cases .. .. .	0.46
Healy I (Scores): 339 cases .. .. .	0.33
Healy A (Time): 374 cases .. .. .	0.32
Mare and foal (Time): 370 cases .. .. .	0.36
Knox cubes (Scores): 301 cases .. .. .	0.23

*Note.*—The 210 cases listed above comprise several children not included in these 274 cases. Many of the lower mental ages of the latter are not included in the former, whereas the higher mental ages (7 to 11 years) remain about the same in number. The probable errors of the correlations (P.E.) are well within 5 P.E.

Generally there is not a high correlation between chronological age and “test” ages and scores. This is to be expected in the case of performance tests where the distributions show a much wider range of variations of quantitative values as compared with that of the Binet mental ages. This we have found to be a characteristic feature of performance tests. The correlation between chronological and mental age for the 210 children from 10 to 14 years is noticeably higher than that for a group of 274 children of similar ages. But in the former group the numbers for each age are more symmetri-



cally distributed and there is a greater (and more symmetrically distributed) proportion of higher to lower mental age.

#### INTERCORRELATIONS.

In view of the fact (already pointed out) that there is a wider variability of range of achievement in performance tests, it will be expected that the intercorrelation between individual performance tests will be lower than those between higher orders of intelligence tests, such as the Binet and Porteus scales and even between these scales and the average of a number of performance tests taken altogether as in a scale. This will happen in particular where the group of individuals tested is fairly homogeneous as to mental levels. The 210 cases under review are more or less of the same mental level; they comprise high grade feeble-minded who are not as a rule easily distinguished from borderlines. Hence these children may be regarded as constituting a homogeneous subnormal group.

CORRELATION TABLE NO. 1.

*Table of Correlations of Binet and Performance Mental Ages—  
Two Hundred and Ten Children from Ten to Fourteen  
Years of Age.<sup>(6)</sup>*

	Binet.	Porteus	Healy I.	Mare.	Healy A.	Average.
Binet .. ..	—	.45	.43	.34	.36	.395
Porteus .. ..	.45	—	.33	.24	.26	.32
Healy I. .. ..	.43	.33	—	.21	.13	.275
Mare .. ..	.34	.24	.21	—	.30	.272
Healy A. .. ..	.36	.26	.13	.30	—	.262

If the average of the mental age values of the four performance tests is taken and also a similar average for the Healy I, Healy A and Mare (*i.e.*, excluding the Porteus), and correlated with the Binet and Porteus mental ages, we have the following table of correlations:

	Binet.	Porteus.	Three perf.	Four perf.
Binet .. ..	—	.45	.56	.55
Porteus .. ..	.45	—	.46	—

Here we find that there is a higher correlation between Binet and the average of the performance tests than between

the Binet and the tests taken singly. By averaging we tend to avoid in part the effect of the variations due to individual differences in ability and attitude in responding to the conditions of the test problem and the circumstances under which it is given.

For purposes of comparison it is desirable to give the intercorrelations of the tests calculated from the times and scores and the usual measures according to which the results are expressed.

CORRELATION TABLE NO. 2.

*Table of Correlations of Binet and Porteus M.A.'s and Healy I (Score), Healy A and Mare (Time).<sup>(10)</sup>*

	Binet.	Porteus	Healy I.	Mare.	Healy A.	Average.
Binet .. ..	—	.45	.45	.32	.38	.40
Porteus .. ..	.45	—	.34	.37	.30	.365
Healy I. .. ..	.45	.34	—	.20	.16	.287
Mare .. ..	.32	.37	.20	—	.23	.28
Healy A. .. ..	.38	.30	.16	.23	—	.267

If these two tables are compared, it is noticed that the order of rank of the averages of the correlations remains the same, and that, with one exception, there are no marked differences in the specific averages themselves. The intercorrelations between scores and times do not vary significantly from the intercorrelations between what may be regarded as a common measure, the mental ages.<sup>(11)</sup> The slight discrepancy between the two distributions (according to mental ages and according to actual methods of scoring) may be due to the vagaries of valuations of the Healy A results. Owing to the numbers of subnormal individuals not completing the test at the lower ages (*cf.* p. 121), it was not easy to determine the corresponding ages; and there was an excessive bunching of values at the lower end of the scale.

#### CRITERION OF TETRAD DIFFERENCES.

It should be of interest to submit these correlations to Spearman's criterion of tetrad differences<sup>(12)</sup> to determine whether they involve in marked measure the presence of *g* or a common factor or whether they are definitely affected by group factors. From outward seeming it would rather be expected that, both as regards the subjects and their manner of selection, group or overlap factors would dominate; and yet, on the other hand, it might be possible to show a diminution of the influences of these specific factors, due to the very composite nature of the selection of ages and sexes in a

homogeneous class of subnormals, and thus the existence of  $g$  would be significantly manifest. According to the criterion, if the distribution of the tetrad differences conforms somewhat to a normal frequency curve and the P.E. of the tetrad differences does not vary excessively from zero (as in an absolute normal distribution all the tetrad differences are exactly zero); and if the observed median is not greater than or is about equal to the theoretical value of P.E., the intercorrelations are significant of the presence of a common factor  $g$ , and of the lack of dominance of specific or group factors (*i.e.*, there is no group factor of "appreciable magnitude"). The variations from zero tetrad differences are then due to sampling errors.

From the coefficients of correlations in Table No. 1 (page 124), the observed median of the tetrad differences is found to be .031. The theoretical value of P.E. is .021. In this instance, although the observed median is greater than the theoretical P.E., yet the actual difference is very small. The distribution of the tetrad differences between  $\pm 1$  P.E. is 5 (almost 6);  $\pm 2$  P.E., 8;  $\pm 3$  P.E., 12; and  $\pm 4$  P.E., 15 (see Fig. I).

According to Spearman's method of distributing tetrad differences, this frequency distribution will tend to conform somewhat with a symmetrical curve. (He has pointed out that the converse differences in each tetrad of correlations must be accounted for, *British Journal of Psychology*, April, 1927, page 326.) But the curve of observational data is rather too much flattened as compared with the theoretical. Still the evidence indicates the presence of  $g$  to an amount which appears to outweigh the effects of specific or group factors; yet withal the differences between the observed and the theoretical P.E. may not solely be due to sampling errors alone. Are there, then, any special features of either the subjects or the tests that may be worth analysing? It may be that the stretch of the ages from 10 years to 14 years is rather wide, and that the intercorrelations of Binet or Porteus scales with single performance tests may not be satisfactory, for it has been seen that an average of the performance tests correlates better with these scales than the single tests. Or, it may be that the intermingling of the results of both sexes, or the unreliable attitudes or the mixture of types of subnormals, will partly account for the variation. And yet, on the other hand, any excessive weighting of these features has not been manifest, as the closeness of the conformity of the intercorrelations with the criterion is significant of the  $g$  factor. Indeed, this is somewhat more pronounced, if the Binet and Porteus mental ages are intercorrelated with



the scores and times of the Healy I, Healy A, and mare and foal tests. Here the observed median is .028 and the theoretical P.E. .022. The distribution in terms of P.E. are:  $\pm 1$  P.E., 6;  $\pm 2$  P.E., 9;  $\pm 3$  P.E., 13;  $\pm 4$  P.E., 15. Considering the conglomerate nature of the sample, and the small number of tetrads, we have obtained a rather good result (see Fig. II).

We now proceed to make a broad analysis of the constituents of the correlations so as to discover what influences (other than sampling errors) are contributing to the variations of the distributions. It would be fitting, first of all, to determine the correlations of each of the tests with  $g$ , so as to ascertain whether disturbances are referable to the nature of the tests (including the psychical processes they involve) or to the subjects. A further question is whether the operating influences are extrinsic to the tests or are due to the psychological relations which are tested.

The correlations (Table No. 1) with  $g$  are as follows:<sup>(13)</sup>

Binet, .84; Porteus, .59; Mare, .48; Healy I, .44; Healy A, .43.

If the four performance tests alone are taken, the correlations with  $g$  are:

Porteus, .61; Mare, .52; Healy A, .43; Healy I, .41. It would appear, then, that a sifting of the various extrinsic influences is desirable, particularly in view of the marked differences in the correlations with  $g$  for the various tests. It has already been noticed that if we fuse (or broaden) the performance tests, we get higher correlations with Porteus and Binet. We have also found that if we intercorrelate the four performance tests (*i.e.*, exclude Binet), the observed median of the tetrad differences is .038, and the theoretical P.E. is .018. The discrepancy is now more marked as compared with that arising from the intercorrelations between the Binet and the performance tests.

We have discovered that, if we examine separate tetrads, the disturbance is all the more pronounced, according as the influence of the Binet scale wanes, or, in other words, according as the practical tests become more prominent in the tetrads. The following summary will demonstrate this:

Tetrad.			Tetrad Difference.	P.E.
Binet, Porteus, Mare, Healy I	..	..	.0087	.022
Binet, Porteus, Mare, Healy A	..	..	.0466	.021
Binet, Porteus, Healy I, Healy A	..	..	.0603	.023
Binet, Mare, Healy I, Healy A	..	..	.0312	.020
Porteus, Mare, Healy I, Healy A	..	..	.0414	.018

In view of these facts, it seems necessary to determine what bearing the influences of age and sex have upon the intercorrelations and the tetrad differences dependent upon them.

If now we tabulate separately for each chronological age group the intercorrelation between the tests, there are noted marked discrepancies between individual correlations for all the ages taken together as one group and the respective correlations for the chronological ages taken as separate sub-groups. Generally the quantities of the correlations are lower for the several age sub-groups than for the whole group. Examining the separate chronological age groups, we notice excessive variations in the inter-correlations of the performance tests. There is a disturbance of the general balance of the hierarchical distribution of the correlations, especially as affecting the two single performance tests—the Mare and Healy A. By contrast more uniformity is indicated in the Binet-Porteus-Healy I correlations. In three age groups one minus correlation-coefficient appears, *viz.*: Healy I-Mare (10 years),  $-.06$ ; Healy A-Healy I (12 years),  $-.07$ ; Healy I-Mare (13 years),  $-.02$ . Several minus correlations appear in the 14 years group; whilst in the 11 years group all the correlations are positive (see Fig. III). As the single minus correlations are so small, and do not too seriously disturb the tetrad-differences beyond utility (though they do not allow for a complete or satisfactory application of the criterion, affecting as they do in varying measure some five of the tetrads), we have worked out the tetrad-differences and the P.E. for each of these age sub-groups, which include both sexes. The result is as follows:

Age Group.			Observed Median.	P.E.	Number of T.D.'s less than P.E.
11 years *	...	...	$-.037$	$-.040$	8
12 years †	...	...	$-.048$	$-.039$	7
13 years †	...	...	$-.049$	$-.043$	6

NOTE.—All the 15 tetrad-differences are within  $\pm 3$  P.E.

\* All the correlations are positive. (See Figure iii).

† One of the correlations is negative.

It appears, then, that as we break up the total group (comprising both sexes with a range of ages from 10 to 14 years) into age sub-groups of both sexes, certain difficulties in the operation of the criterion are noticeable. They concern chiefly the single performance tests. They put the 14 years group out of action, as it were. It is a more specialized group than the others, comprising mainly delinquent boys and a

proportionately small number of girls. In this case the age and other factors in addition to sex are adversely affecting the correlations. In the other groups it may be that the stretch of the age-range (10-13 years) is not so seriously affecting the criterion (though its negative influence is apparent), for among sub-normal children the rate of yearly advance in mental and pedagogical development is about half that of normals; and so we might take the ages together in groupings of two or even three years, according to the nature of the tests and the errors affecting them. We find that the intermediate range of 11 to 13 years gives a better result than the extended range of 10 to 14 years. But the appearances of minus correlations certainly indicate an increasing weight of disturbing influences at work (whether arising from sex or age or both combined), which by a process of composition have been reduced. In this agglomeration the advantages and disadvantages of specific abilities and disabilities have somewhat checked one another, and what is common to the several individuals has maintained its strength throughout. In the process of summation, then, the negative variations have been merged into the positive, and other variations have somehow been counteracted. When one considers the manner of selection of the children, the stretch of the age groups, the variability in response and attitude on the part of sub-normals, their general lack of incentive, as well as the varieties of materials handled, the intermixture of what may be called "mental" and "motor" factors in performance tests, the diffidence of the older children towards a simple completion test, such as the mare and foal and other circumstances, it is rather astonishing that the combination of all these features should have considerably negated their specific weights and enabled  $g$  to emerge as the dominant factor throughout. To apportion the amounts of influence of these various features is no easy matter and would require a separate and special investigation. But it is clear that the source of the disturbing influences we have noted, is traceable to the single performance tests, the Healy A, Healy I and the mare. It has been shown by investigations (*e.g.*, Dr. C. R. McRae<sup>(14)</sup>) under the direction of Spearman, that spatial cognition involves the presence of the  $g$  factor, and that the overlap or group factor is inappreciable, except where the tests are very similar to one another; and it has been demonstrated, in the case of tests (picture completion) involving psychical relations,  $g$  is also the dominant factor. Accordingly, judging from previous investigations, it would appear that the cause of the discrepancies is not intrinsic to the tests themselves. Further, no marked specific correlations, based upon all the



210 cases, are forthcoming, though the three tests in question show up a little more than the others. But it is not improbable that the composite nature of the Binet scale and the continuity and breadth of the Porteus scale exert some bearing. A specific investigation to determine what the amount of this extrinsic influence is, would give an interesting result. It is doubtless, too, that the range of the chronological ages is a contributing circumstance, for the diminution of the correlations with age is not insignificant; and this fact has been commented upon by Spearman.<sup>(15)</sup>

There remains the question of the disturbance, due to sex differences; and here the means are at hand to determine the extent of such influence upon the tetrads. All that is necessary is to separate the records of the boys from those of the girls, tabulate and compare them. When we work out the intercorrelations for the girls' group at each chronological age, we obtain minus correlations from the results of the single performance tests Healy I, Healy A, and the mare and foal. The average of the correlations for the girls' group are below those for the whole groups of each chronological age. As the tetrad equation cannot therefore hold throughout the whole of these correlations, the criterion of tetrad differences is not satisfied. It is noticeable that in both the two tetrads obtainable, Binet, Porteus, and Healy I tests occur. One finds that in performance tests generally (*i.e.*, involving form boards, manipulative materials, mechanical constructions, etc.), subnormal girls do not respond so well as boys, and it seems desirable to make due allowance for their differences in approach, diffidence, want of specific interest in mechanical constructions, etc., as well as to devise practical diagnostic tests to fit in better with their general training and interests. Under these circumstances one would expect that the *g* factor would be restricted in manifestation.

The number of boys for the respective chronological ages are: 10 years, 18; 11 years, 24; 12 years, 29; 13 years, 29; 14 years, 21. Although there are noticeable variations in the individual correlations of any boys' age group as compared with the total group for both sexes, yet the average of the correlations for any boys' group and the whole group does not vary very much. The averages for the boys' ages, giving all positive correlations are: 11 years, .230; 12 years, .287; 13 years, .289.

A comparison of the observed median of the tetrad differences for each chronological age of the boys' groups and the corresponding theoretical probable error brings out an interesting feature.

No. of Boys.	Age.	Observed Median.	P.E.
24	11 years	·075	·070
29	12 years	·065	·062
29	13 years	·069	·064

The observed medians and the probable errors are remarkably alike. From the frequency distributions of the tetrad-differences for these chronological ages, we obtain graphs which compare favourably with those given by Spearman in his "Abilities of Man" as illustrating the positive application of the criterion of tetrad-differences (see Figures IV to VI). Though the number of correlated tests (that is five) is rather small for this form of distribution, yet the several graphs we have plotted have so uniformly manifested the criterion, that we are of the opinion that for the same subjects a larger series of tests would give similar results, and be far more suitable for this mode of treatment.

These results are so pronounced that they cannot be said to be due altogether to "chance," for the interfusion of elements is far too intricate to warrant such a view. They are all the more remarkable considering that the individuals listed have been obtained by a selective process from numbers of cases which have been garnered over three years. Here, then, in what appears to be a haphazard sifting of subjects, the criterion has been emphatically applied. When one considers that the introduction of a few extra individuals into a small group may easily turn a minus correlation into a plus or *vice versa*, it is to be expected that where small numbers are concerned freakish results are likely to appear, especially when one is dealing with subnormal intelligences. And the chances of such appearing are much increased by the fact that in these correlations we are linking up a scale, where the ranges of variability of subnormals is somewhat restricted, with single performance tests where there is a very marked range of variability and unequal gradings of abilities.

Further, in view of the mental retardation of these subnormals (equal on the average to about four years), one would expect untoward reactions to specific tests, especially in such instances where the successful response (involving time) does not come readily, or the appeal or incentive is decidedly lacking. These attitudes are actually observed in the doing of the Healy A and Healy I by younger subnormals, not older than about ten years of age, and of the mare and foal by subnormals about 14 years of age and older. Con-

sequently, it is not without significance that the criterion of tetrad differences is not satisfied for the ages at the outer limits, *i.e.*, at 10 years and 14 years, at which these attitudes are somewhat pronounced in reaction to the tests here indicated. It might be noted (*e.g.*) that the 14 years old boys were a mixed lot, including a number of delinquents. Their Binet-Porteus correlation was a minus one, which, by a chance association of a few girls (who usually show a higher Binet-Porteus correlation than boys) happening to fill a gap, was changed into a plus.

From these observations it is clear that there are various features of the situation, outside the tests themselves, which interfere with the manifestation of the *g* factor; and that the inferiority as well as the unreliability of the responses of subnormals are most liable to induce disturbing influences, though as we have also seen, it is also possible to "happen along" selections where the tests freely operate. In other words, errors due to variability in personal reactions must creep in and cannot be avoided. In fairly large groups they may to some extent negate one another, though of course not wholly. By fusion of these individuals, whether singly or as groups, we have seen that it is also possible to cancel out features specific to one or two tests, but not to the whole. By these counteractions *g* is enabled to emerge as the dominant element. The several activities of the *s* factors are restricted or negated. The graphs indicate this. They also show that in some selections there is an over-massing towards the central tendency, and that in others there is an over-massing towards the margins. The whole group (210 cases) gives the appearance of a number of individuals massed together along a defile, swaying from side to side, but keeping generally along the central line of the movement. Though the whole preserves a balance or equilibrium of movement, yet, at specific times or places, variations occur which seem to disturb the ordinary oscillations of the groups and set in centrifugal tendencies. But these are not stable enough to upset permanently the general trend of the whole mass. Co-ordinated action making for group harmony, allowing for local variations, appears to be significant throughout. By means of the analysis we have made, it appears that, despite the pressure of specific or partial dislocations due to groupings together of various ages and the sexes, the *g* factor has emerged throughout in association with just the kind of errors which the samples we have used would (on examination) lead us to expect. When we release the specific features arising from sex differences—particularly in view of the variability of responses to the single performance tests, and



avoid the extremes of age limits which are affected by these types of tests, we are left with samples which remain true throughout. And on the other hand we find that by a subtle process of internal counter-checking (which was discovered on analysis and of which all the details have not by any means been unravelled), we are enabled to draft from a homogeneous class of subnormals, scattered throughout the State, a fairly large unit which gives test-values conforming with the criterion.

### CONCLUSION.

We find, then, so far as our Tasmanian experience goes, marked variations in the distributions of subnormals as determined by specific tests; and that, while it is possible to obtain intercorrelations which show a certain amount of inter-consistency, it will frequently happen that opposite results will occur. This variation is probably due to the fact (among others) that subnormals are usually ascertained by means of a special survey, whether found in the community or in the institutions, and are culled out in small numbers from larger distributions of children.

It is apparent that, although it is not satisfactory to use single tests (as such) in determining the classification of individuals, yet the averaging of an appropriate series of independent intelligence (including performance) tests gives a more reliable measure of abilities. Still, one must never overlook the fact that, in the case of subnormals, there is a great and unevenly graded range of variability against the vagaries of which the diagnostician must devise means to guard himself.

It also appears that in view of the satisfactory distributions obtained in cases of unselected normals, as reported by Spearman, Terman, Thomson, and others, it is wise to exclude the subnormals when determining norms and standards, unless one can be sure that the latter are distributed at random. And yet, on the other hand, it is desirable to work out norms and standards for subnormals as separate groups, so that individuals in any group of subnormals may be compared with their own kind.

What all this means for the purposes of psychological diagnosis and classification is that quantitative values are never so absolutely reliable that we can be sure of transmuting them into determinative qualitative values, and *vice versa*. This fact is all the more marked where we are working with scales of growth. For there is ever a lack of symmetry somewhere, and we cannot force the actual into moulds or configurations or any forms of measurement that will give

"specificity" to "generality." In all the tables furnished in this report there are variations from what appears to be the main trend, and we can never be sure that all these variations will work themselves out, or if they do, that other variations will not show themselves. There appears to be, then, something "empiric" in all growth and measures of growth. And although by means of averaging we may at times eliminate specific non-significant differences, yet these averages themselves may lead us astray if applied indiscriminately to individuals whether included in the determination of the averages or not.

When one considers the infinitely various ways individuals manifest aptitudes, and both act and react upon one another; when one takes into account the interfusion of emotional dispositions, desires, volitions, the variants due to negativism whether mild or pronounced,—to indicate merely a few phases of mental complexity, he might well ask by what subtle measuring of spiritual powers, energies, etc., can he be assured that what he has measured or determined in some amount is the same thing or amount as manifested in different individuals or the same individual at different times. It is clear that the value determined at any one time and under specific conditions does not record the whole of what happened in the total responses at that time. By means of the measurements we are to some extent integrating a broken series of parts that do not express in the synthesis all that occurred in any one case; and yet we find in actual use that it enables us to make comparisons between individuals which can be relied on more frequently, and even more assuredly, than would be expected under the circumstances. Then, too, there is a further difficulty which arises from the presentation of the material. What may outwardly appear to be common, may yet be actually, so far as the individual percipient is concerned, something different from what it appears to be to the person who presents it. Position, time, disposition, initiative, fatigue, explanation, personality in contact, and so forth, all vary; the situation as compact of all these relations is never an intelligible constant. All these things and their features are given brief mention in order to stress the fact that, although we have determined various, and even fairly reliable, measures of variability as well as of absolute amounts of individual responses in tests situations, and have also found that their values conform to a well established criterion, still we can never dispense with individual judgment in mental classification. And, from the data submitted, we conclude that where we conduct mental examinations for the purpose of determining intelligence levels, and deal with the cases

individually, it is also desirable to take a massed view of the results, and compare subgroups with one another. For this purpose norms and standards are indispensable. Accordingly, it is necessary that any psychological bureau or laboratory, which conducts clinical examinations, should at the same time select and valuate "control" groups, in order that each individual may be viewed in relation to a reliable psychological background or setting.

## NOTES.

(1) *Journal of Educ. Psych.*, Oct., 1921, p. 402.

(2) *Ibid.*, p. 406.

(3) Cf. B. M. Minogue, *Mental Hygiene*, Oct., 1926, p. 751.

(4) See Shuttleworth and Potts, "Mentally Deficient Children," 1922, pp. 123-131; Pintner and Paterson, "Scale of Performance Tests," 1917; Burt, "Young Delinquent," 1925, p. 623; Healy, "Individual Delinquent," 1915; Myers, "Industrial Psychology in Great Britain," 1926.

(5) See "Brain Capacity and Intelligence," 1926, Monog. No. 4, Aust. Assoc. Psych. Phil.

(6) Sex differences in Binet and Porteus have been calculated as follows:

	Boys (122).				Girls (88).			
Median Binet I.Q.	..	..	..	..	64	..	64	
Median Porteus I.Q.	..	..	..	..	75	..	66	
Binet-Porteus	..	..	..	..	$r = 0.41$	..	$r = 0.61$	

Cf. Porteus on institutional cases: boys (29),  $r = 0.21$ ; girls (44),  $r = 0.60$ .

(7) Burt, C.: "Mental and Scholastic Tests," 1921, p. 145.

(8) Cf. Johnson and Schreifer, *Journal of Educ. Psych.*, Oct., 1922, p. 415.

(9) For comparison, see the following: Ross, *Studies in Mental Inefficiency* (now *Mental Welfare*), Jan., 1921, pp. 5-6; Fildes, *Mental Welfare*, Oct., 1925, p. 91; Cornell and Lowden, *Journal of Abnormal Psych.*, Vol. 18, 1923, p. 35; Porteus, *Journal of Educ. Psych.*, Vol. 9, 1918, pp. 13-31; Gaw, Industrial Fatigue Research Board Report, No. 31, p. 3).

(10) Compare: Aden, *Journal of Delinquency*, May, 1926, p. 358; Johnson and Schreifer, *op. cit.*

(11) Although we have reduced the time values and scores of the performance tests to a common or "mental age" measure, in order to determine correlations with the mental age norms of Binet and Porteus scales (and although the correlations calculated in this manner do not differ very much from those ascertained from the actual or raw scores), yet we do not assume that this common quantitative measure means qualitatively the same for, say, a Binet scale as for a performance scale. It certainly cannot be said to measure the same thing in both (or the several) instances. But it gives a rough measuring rule suitable for ordinary purposes of comparison for psycho-educational practice, and it has the advantage of a meaning associated with a universal time or age quantitative value. It may be more satisfactory to substitute percentile or standard



deviation values, or other similar statistical measures. But investigations have not sufficiently advanced to render these units serviceable as substitutes for such an easily understandable "unit" as mental age.

<sup>(12)</sup> Spearman: "Abilities of Man," 1927, Chapters VI, X and Appendix. Other articles by Spearman and Holzinger, *Brit. Jour. of Psych.*, July, 1924, pp. 17-19; *ibid.*, Oct., 1925, pp. 86-88; Slocombe, *ibid.*, Oct., 1926, pp. 93-110; Thomson, *ibid.*, Jan., 1927, pp. 235-55; Spearman, *ibid.*, April, 1927, pp. 322-26. A clear exposition of Spearman's criterion by Slocombe appears in *Journal of Educ. Psych.* for Jan., 1928, pp. 1-24.

<sup>(13)</sup> See "Abilities of Man," p. 200, and Appendix, pp. XVI-XVII.

<sup>(14)</sup> *Ibid.*, p. 228.

<sup>(15)</sup> *Ibid.*, pp. 218-30. The averages of the correlations for each chronological age fall as the years of the age group advance.

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## SOME NEW APPARATUS FOR THE PSYCHO-GALVANIC REFLEX PHENOMENON.

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### I.—DESCRIPTION OF APPARATUS.

THE usual apparatus arranged for measuring the psychogalvanic reflex is costly to purchase and each time that it is used requires a careful adjustment to procure exact results. By means of a weak current passed through a portion of the body an emotional change which affects the discharge of the sweat glands may be measured by observing the changes of resistance to the current. These minute changes are detected by means of a highly sensitive string galvanometer of the mirror pattern, the angle of deflections of the mirror being registered by the deflected beam of light on a horizontal screen set up about a metre distant. The disadvantages of such an apparatus are three: (*a*) the high cost of the galvanometer, (*b*) the difficulty and delay in obtaining a balance and a return of the beam of light, and (*c*) the constant need for a fresh adjustment every time the apparatus is moved. The photographic method of Wechsler<sup>(1)</sup> overcomes the last difficulty, but not the others.

We began with the idea of magnifying the minute changes of resistance by means of a "radio" valve, so that, by means of the coarser adjustments thus made possible, we might overcome the above-mentioned objections. While investigations show that this aid in magnifying weak currents has been made use of by the physiologist, this is the first occasion, so far as we are aware, that it had been utilized for experimental work in psychology. A member of the Department of Electrical Engineering was interested in the work, and with his aid the apparatus was designed and has reached its present form. In addition to overcoming the disadvantages mentioned, it has become a permanent and serviceable piece of apparatus, and portable for any distance. Fig. 1*a* affords an actual front and Fig. 1*b* a rear view of the apparatus as it has been set up.

The working parts, except the electrodes and galvanometer, fit into a case 15 inches in length,  $9\frac{1}{2}$  inches in height and  $6\frac{1}{2}$  inches in depth at the base, but sloped back to 4 inches

# 138 NEW APPARATUS FOR THE PSYCHO-GALVANIC REFLEX.

depth at the top. The central panel of the front of the box is made of bakelite to take the battery switch and control handles of the resistances. The box inside is divided into

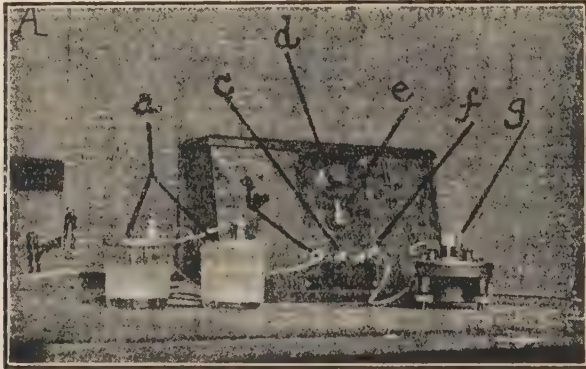


FIGURE 1a, Front View.

- (a) Electrode jar for fingers.
- (b) Jack and plug for connecting electrodes.
- (c) Filament switch.
- (d) Rheostat for controlling filament.
- (e) Potentiometer controlling balance of circuit.
- (f) Jack and plug connecting galvanometer.
- (g) Galvanometer.

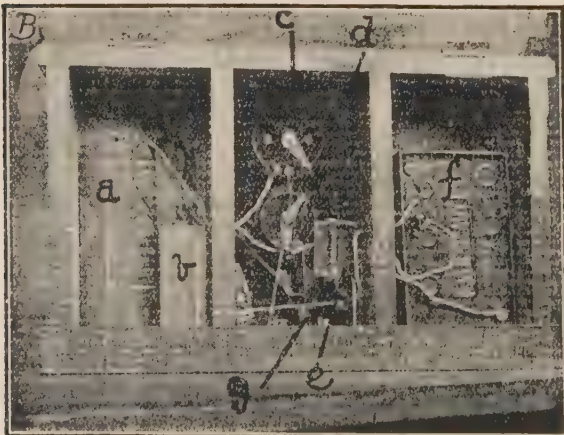


FIGURE 1b, Back View.

- (a)  $1\frac{1}{2}$  volt battery cell.
- (b)  $3\frac{3}{4}$  volt "C" battery cell.
- (c) Rheostat.
- (d) Potentiometer.
- (e) Fixed resistance, 50,000 ohms.
- (f) 42 volt "B" battery cell.
- (g) Valve socket with valve removed.

three sections (see rear view) to allow of compact stowage for the batteries. The back is hinged to allow of ready access to all the parts.

The electrodes used consist of wide mouthed jars with wood-fibre covers. Zinc plates acted as poles. In the top of each cover a hole was cut large enough to allow the middle finger to be thrust into a solution of normal saline. A small hole at the sides allows the addition of saline by pouring, until the first finger joints are covered. We did not follow Wechsler's practice of waterproofing above the joint with a rubber cover, as we found it sufficiently easy for subjects to keep the fingers at a fairly even submersion.

## II.—DESCRIPTION OF CIRCUIT.

The circuit as shown in Figure 2 is a modification of the Wheatstone Bridge and has been named the "Thermionic Bridge Circuit." It will be seen that a thermionic valve has been substituted for the galvanometer, and a much less sensitive galvanometer has been inserted in the plate circuit of the valve. Thus the amplifying action of the valve enables a less sensitive and more robust galvanometer to be used. This is particularly of advantage for a portable apparatus and also obviates any trouble due to the galvanometer not being sufficiently damped, as the pointer of the less sensitive galvanometer does not swing appreciably past the correct position.

In order to demonstrate the action of the apparatus, Figure 3 has been prepared, showing the equivalent circuit to Figure 2. The Wheatstone Bridge and the essential parts of the valve circuit are clearly shown. Under normal conditions there will be a definite potential between the grid and filament of the valve, and so the Wheatstone Bridge equality  $R_1 : R_2 = R_3 : R_4$  does not hold. However, this does not affect the accuracy of the measurements, since the ratio  $R_3 : R_4$  need not be known. In the actual circuit the two resistances  $R_3$  and  $R_4$  are omitted, and the filament lead taken to a tap on the battery. This simplifies the circuit considerably, since only one plate battery is required instead of the two shown in Figure 2.

In order to give a convenient means of balancing the apparatus, a potentiometer of about 400 ohms resistance as used in wireless receiving sets, together with a battery (C) of 4 to 9 volts, are used to give an adjustable bias to the filament. The tap on the battery is taken at the point giving the best balancing characteristics, the 30 volt tap giving quite satisfactory results under the conditions of the experiment.



## 140 NEW APPARATUS FOR THE PSYCHO-GALVANIC REFLEX.

Now in any valve the plate current is controlled by the grid potential. If the grid is made positive to the filament a large plate current will flow, while if the grid is made negative to the filament the current will be decreased. At a certain point, usually when the grid is slightly negative to the filament, no plate current whatever will flow, while if the grid is made still more negative no further action can take place.

In the circuit under consideration, the grid is initially made negative to the filament sufficiently to prevent any plate current flowing. Then after contact has been established

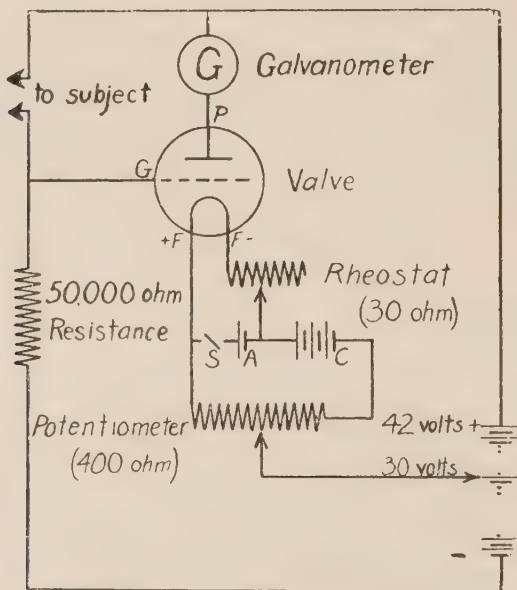


FIGURE 2.

with the subject the potentiometer knob is slowly turned until a plate current of about half full-scale deflection is obtained. For this purpose a galvanometer with a centre-zero scale is an advantage. After stable conditions have been attained, any increase in plate current indicates a decrease in the resistance of the subject, and the deflections are nearly proportional to the alterations in resistance.

It has been found that a dry battery of 42 volts, in the form of a small size radio B battery is the most convenient size to use. The Battery (C) is a small size dry cell battery of from three to six cells, the greater voltage giving a wider

but less sensitive control over the grid-filament bias. The valve which has been found empirically to give the best results, together with portability, is the Philips "A109." It needs only one dry cell for heating its filament, the current taken being 0.06 ampere, and the amplification factor being 9. A switch (S) is used to cut out of circuit the filament battery A. It should be noted that the battery C through the potentiometer and rheostat assists A in lighting the filament, and so care should be taken that the voltage across the filament is no higher than the makers recommend. The rheostat when turned to the "off" position should completely open the filament circuit, or otherwise the battery C would run down in a few hours when the apparatus is not in use. The galvanometer used gives full-scale deflection (*i.e.*, from 0 to 40) with a current of about 10 micro-amperes, and is of the centre-zero

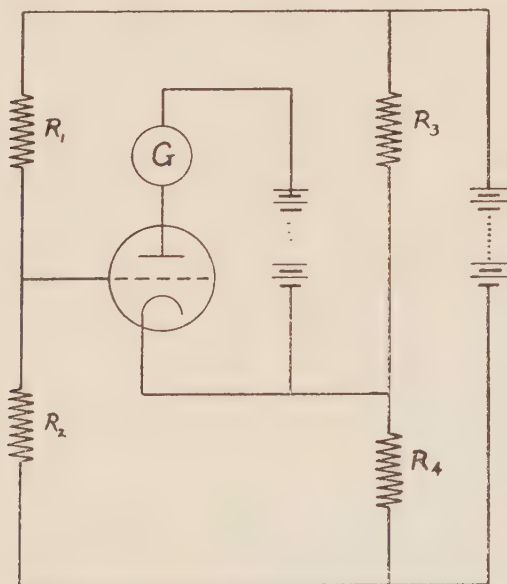


FIGURE 3.

(40-0-40) unipivot type. The experiments which are described later were carried out with the aid of this galvanometer. In some further and less exhaustive tests a mirror galvanometer was substituted with equally satisfactory results. The latter instrument was made by W. George & Co., of Birmingham. Its sensitivity is rated at 152 ohms. The set could be made more portable by the use of a panel-mounting galvanometer

with jewelled bearings, but as the above-mentioned type was available it was used in preference and has been found satisfactory.

If a yet more robust galvanometer be required, it would be necessary to add a second valve. Although at the present time no work has been done with this arrangement, a circuit has been developed to achieve this end. The galvanometer of Figure 2 is replaced by a resistance of greater value than the valve impedance, of the order of 50,000 ohms, in series with a small battery of, says, 20 volts, the positive being towards the plate. From each end of the resistance unit a lead is taken, the one on the plate side going to the negative terminal of a bias battery whose positive terminal is connected to the filament of the second valve, and the other lead going direct to its grid. Absolutely separate and insulated filament and plate batteries are required, the only connections to the first valve being the two leads to the resistance in the plate circuit. In order to give the largest possible deflections with the least number of valves, the valves should be of the high impedance high amplification factor type. At the same time it should be noticed that when only one valve is used the nominal amplification factor is of only slight importance, since the working point on the characteristic curve is on the lower bend, where the actual amplification factor depends more on the sharpness of the bend than on the nominal value. For this reason the one-volt valve used gave considerably better results than the well-known 6-volt types. If still greater amplification is required, three or more valves may be used, provided that their batteries are kept separate.

In practice this circuit has given very satisfactory results, the stability being all that could be desired, and the operation rapid and straightforward.

### III.—EXPERIMENTAL RESULTS.

The Psychogalvanic Reflex has been accepted by almost all investigators as an indicator of emotional response, but we wished to be quite sure of the effectiveness of our apparatus, and so an experiment was carried out upon ten subjects with a view to determining whether large deflections of the galvanometer were as a rule consequent upon stimuli which might reasonably be expected to arouse emotional reactions, and whether unemotional stimuli would cause, as a rule, only small deflections.

A list of twenty words was made, so selected that ten might be classed by a normal person as tinged with emotional

tone, and ten of no emotional significance to a normal person. These words were arranged in six groups, as follows:

Group I: Table, light, house, cloud.

Group II: Bible, holy, religion, to sin.

Group III: Bird, dog, day.

Group IV: Man, woman, love.

Group V: Knife, clock, pencil.

Group VI: Kiss, family, anxiety.

It will be seen that Groups II, IV and VI are composed of words which for most people are accompanied by some considerable degree of emotional tone, while Groups I, III and V consist of words which have for most people, so far as can be judged, very little emotional significance.

In addition to the words, three stimuli were used which might be classed as nocive or threatening; these were: (a) a loud sound immediately behind the subject; (b) a pin-prick in the back of subject's neck; (c) the application of a small piece of moist sponge to the back of subject's neck. These stimuli might reasonably be expected to arouse some emotional response, whether of fear, anger, curiosity, or amusement.

The subjects were required to respond with a free association in each case to the twenty stimulus words, and the galvanometric deflections and reaction times were recorded in each case. The galvanometric deflections were also noted in the case of the three nocive stimuli.

After the mean deflection and the mean reaction time had been found for each subject, the individual responses were expressed as percentages of these means; this method of treatment was used by Whately Smith and others, and enables the responses of different subjects to be compared, irrespective of their individual mean reactions. Table I shows the average galvanometer deflections and reaction times for ten subjects, expressed as percentages of their mean reactions.

It will be at once apparent that the three nocive stimuli produced definitely large galvanometric deflections. If the words are arranged according to the magnitude of the response in time and deflection, we obtain the following lists (see Table II).

The words marked with a <sup>1</sup> are those which were selected as being likely to arouse emotional responses, and it will be seen that they tend to give the largest responses in both reaction time and galvanometric deflection. It seemed therefore that we could say that both methods give a rough indication of some aspects of emotional reaction. But when



TABLE I.

Group.	Word.	Reaction Time.	Galvanic Deflection.
I	Table .. ..	73.3	89.4
	Light .. ..	80.3	68.9
	House .. ..	98.5	79.9
	Cloud .. ..	91.9	90.2
II	Bible .. ..	95.3	137.4
	Holy .. ..	98.8	123.9
	Religion .. ..	118.1	102.0
	To sin .. ..	161.3	142.0
III	Bird .. ..	98.8	78.9
	Dog .. ..	79.1	44.7
	Day .. ..	85.8	87.8
IV	<sup>1</sup> Man .. ..	94.4	69.5
	<sup>1</sup> Woman .. ..	84.8	89.1
	Love .. ..	97.6	160.4
V	Knife .. ..	106.7	41.8
	Clock .. ..	86.8	50.1
	Pencil .. ..	96.5	38.5
VI	Kiss .. ..	138.7	157.8
	Family .. ..	108.4	70.0
	Anxiety .. ..	100.4	70.5
Loud noise .. ..		—	192.4
Pin-prick .. ..		—	165.9
Sponge .. ..		—	127.3
Average Deviation .. ..		13.6	47.1

<sup>1</sup> As there were three women subjects, their responses to the word "Woman" have been included under the heading "Man," and their responses to the word "Man" under the heading "Woman." The reason for this is obvious.

TABLE II.

Reaction Time.	Galvanometric Deflections.
<sup>1</sup> To sin .. .. 161.3	<sup>1</sup> Love .. .. 160.4
<sup>1</sup> Kiss .. .. 138.7	<sup>1</sup> Kiss .. .. 157.8
<sup>1</sup> Religion .. .. 118.1	<sup>1</sup> To sin .. .. 142.0
<sup>1</sup> Family .. .. 108.4	<sup>1</sup> Bible .. .. 137.4
<sup>1</sup> Knife .. .. 106.7	<sup>1</sup> Holy .. .. 123.9
<sup>1</sup> Anxiety .. .. 100.4	<sup>1</sup> Religion .. .. 102.0
<sup>1</sup> Holy .. .. 98.8	Cloud .. .. 90.2
Bird .. .. 98.8	Table .. .. 89.4
House .. .. 98.5	<sup>1</sup> Woman .. .. 89.1
Love .. .. 97.6	Day .. .. 87.8
Pencil .. .. 96.5	House .. .. 79.9
<sup>1</sup> Bible .. .. 95.3	Bird .. .. 78.9
<sup>1</sup> Man .. .. 94.4	<sup>1</sup> Anxiety .. .. 70.5
Cloud .. .. 91.9	<sup>1</sup> Family .. .. 70.0
Clock .. .. 86.8	<sup>1</sup> Man .. .. 69.5
Day .. .. 85.8	Light .. .. 68.9
<sup>1</sup> Woman .. .. 84.8	Clock .. .. 50.1
Light .. .. 80.3	Dog .. .. 44.7
Dog .. .. 79.1	Knife .. .. 41.8
Table .. .. 73.3	Pencil .. .. 38.5

the coefficient of correlation was calculated it was found to be = + 0.31. This result is even lower than that obtained by Whately Smith<sup>(2)</sup> (+ 0.47), and as he used 100 words and 50 subjects, we should perhaps accept his results as being nearer the true correlation.

The most significant discrepancy is in the responses for the word knife, which is in a position fourteen places higher

according to Reaction Time than according to Galvanometer Deflections. In this case and in the case of the word love, which is rated obviously too low by the reaction time, the Psychogalvanic record is more in accord with what we would expect.

If we average the result shown by both methods, we obtain the following order for the list of words:

TABLE III.

*Order of Words according to Average of R.T. and G.D*

<sup>1</sup> To sin.. ..	151.7	<sup>1</sup> Woman.. ..	87.0
<sup>1</sup> Kiss .. ..	148.3	Day .. ..	86.8
<sup>1</sup> Love .. ..	129.0	<sup>1</sup> Anxiety.. ..	85.5
<sup>1</sup> Bible .. ..	116.4	<sup>1</sup> Man .. ..	82.0
<sup>1</sup> Holy .. ..	111.4	Table .. ..	81.4
<sup>1</sup> Religion .. ..	110.1	Light .. ..	74.6
Cloud .. ..	91.1	Knife .. ..	72.3
<sup>1</sup> Family .. ..	89.2	Clock .. ..	68.5
House .. ..	89.2	Pencil .. ..	67.5
Bird .. ..	88.9	Dog .. ..	61.9

If the order of the words here be compared with the lists given in Table II, it will be agreed that this seems to give the most satisfactory grouping, according to observation (and in the absence of any proof to the contrary we must place some reliance on subjective criteria). Accordingly we might suggest that by averaging the responses, expressed as percentages of the means, we obtain the truest indicator of emotional states.

It is, however, worthy of note that the Mean Deviation of the various words from the mean, as measured by the Psychogalvanic Reflex, was 47.1%, while the Mean Deviation shown in their Reaction Times was only 13.6%. This result seems to indicate that of the two individual methods the Psychogalvanic Reflex is the more discriminating, and can better bring out the emotional significance of the word-stimuli.

An attempt was made to discover whether the act of making a voluntary choice between two alternatives would cause significant galvanometric deflections. Cards were shown to the subject one at a time, first setting before him a definite situation in which he was to imagine himself, and then offering the choice of two alternatives, between which the subject was to choose. In the case of two of the choices the subject was asked to reverse his decision, and in all cases the time and deflections were recorded.

The cards used were typed as follows:

- (a) The hour is late, and the day has been tiring; you are about to take the tram home, when suddenly you discover that you have lost your money.

1. (b) Would you choose to walk the distance home, or risk explaining your quandary to some decent-looking stranger?
2. (a) You are preparing to attend a social gathering at a home not previously visited.
2. (b) Would you prefer to go in evening dress, with a chance of being made conspicuous, or in ordinary dress, and perhaps feel out of place?
3. (a) You are convalescing; it is your first day out of doors, and the weather is bright but cool.
3. (b) Would you prefer to sit in the sun in an uncomfortable chair, or in the shade in a comfortable one?
3. (c) Now endeavour to make a reversal of your choice, and arrive at a contrary decision.
4. (a) On returning home after making a purchase you discover that you have been given more goods than you paid for.
4. (b) They would never be missed, and their return involves the dismissal of the employee responsible. Would you return or retain them?
5. (a) You have invited out to dine a new acquaintance, whom you wish to impress favourably.
5. (b) On finding you have forgotten your money, would you rather borrow from your companion, or risk the unpleasantness of an explanation to the management, to whom you are personally unknown?
5. (c) As for 3 (c).

Our results from this experiment upon voluntary choice are entirely negative. Although occasionally a fairly large deflection was recorded, in the majority of cases neither the "aufgabe" nor the act of choice caused deflections of any considerable magnitude, and the magnitude of the individual subjects' average deflections for this part was only about 25% of their averages for the word-association reactions.

The deflections and reaction times were in this experiment also reduced to percentages of the individual subjects' mean deflections or times, but the results, especially those of the psychogalvanic reflex, show so much variation that we can conclude nothing as to the relative emotional significance of the various situations and alternatives, as on trying to obtain an average for the ten subjects we found that the mean deviations were very great, averaging, for all the stimulus-cards, about 65·6% of the mean.

This result seems to indicate that the deflections, where they occurred, were due to chance associations aroused, and not to any effort of imagery or act of choice.

#### IV.—DISCUSSION OF RESULTS.

A final word of comment may be added in reference to the phenomenon itself. Some writers choose to regard the apparatus directly as a general "emotion-meter," but it would seem from results that its whole-hearted acceptance as such should be withheld until further work has been carried out. Following the results already achieved it must be admitted that it does register some emotional changes. Physiological investigations have confirmed what was once surmised, that changes in the amount of discharge by the sweat glands are responsible for the deflections. For this reason it is desirable to know what emotions actually do cause such changes, but this fact is at present unknown.

In regard to the work upon voluntary choice carried out first at the University of London<sup>(3)</sup> and here, no such directly correlated changes could be discovered. Our own work was carried further by attempting to obtain a reversal of decisions used in a previous investigation.<sup>(4)</sup> The subjects were first year students of psychology who were unaware of the methods and objects of the work, and, though naïve, co-operated earnestly and to the fullest extent as shown by the results of the stimulus words, yet even the attempted reversal of choice failed to obtain better results than the mere act of decision. At the same time the reversal situation is far more awkward and directly provocative of emotion. The times were prolonged, pointing to a state of stress, yet even here no changes in resistance were obtained. Granting that the experiments were typical "choice" situations, we are therefore left with the alternatives: either no emotion is engendered in concluding a choice or accomplishing a volition, or else the psychogalvanic reflex does not register emotional changes connected with such a situation owing to the sweat glands remaining stimulated. Before a final pronouncement can be made much more work would have to be carried out. The phenomena of volition must be investigated from the standpoint of other somatic changes. Again the exact significance of the term emotion must be more carefully defined.

Provisionally, however, we hold to the point of view that the psychogalvanic reflex does not register all emotions, for the "obstructed" situation of an attempted reversal of volition yields facial changes and bodily movements expressive of stirred-up mental conditions, far more pronounced than



either free association responses or the act of volition itself. While of undoubted usefulness as one method of recording certain emotional change or changes, it does not appear that the psychogalvanic reflex may be regarded as a universal recorder of emotion. It ranks as a most important member among a number of methods of measuring somatic changes, but does not obviate other methods such as afforded by the pneumograph, the cardiograph or manometer.

## REFERENCES.

<sup>(1)</sup> David Wechsler: "The Measurement of Emotional Reactions," No. 76 *Archives of Psychology*, New York, 1925.

<sup>(2)</sup> Whately Smith: "The Measurement of Emotion," London, 1922.

<sup>(3)</sup> "The Phenomenology of Acts of Choice," *Brit. Jour. Psych. Monographs*, Suppl. XI.

<sup>(4)</sup> A. H. Martin: "An Experimental Study of the Types and Factors of Voluntary Choice," No. 51 *Archives of Psychology*, 1922.

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## DISCUSSIONS.

### I.

#### REASONING AND RATIONALIZATION.

RATIONALIZATION is a term the connotation of which has narrowed considerably in technical discussions of abnormal psychology. Does Mr. Ralph Piddington's article on "Reasoning and Rationalization"<sup>1</sup> still further distort the meaning of the word, or is it a re-statement of Rivers' version of the doctrine of suppression? Rationalization formerly meant the process of rationalizing, or of subjecting to rational tests or principles. Used intransitively, "to rationalize" meant, and is still sometimes used to mean, to think for one's self, or to employ the reason as a supreme test. The transitive use of the verb had in it the seeds of a slightly different meaning: "to give rationality to; to cause to be or to appear reasonable." This is quite neutral of imputing any truth or falsity to the propositions which may cause a belief to be or to appear reasonable. "Eusebius tells us that religion was divided by the Romans into three parts: the mythology or legends that had descended from the poets; the interpretation or theories by which the philosophers endeavoured to *rationalize*, filter or explain away these legends; and the ritual or official religious observances."<sup>2</sup> Here there is just a trace of that emphasis upon the falsity of the propositions whose function it is to rationalize the belief and upon their dependence on an inarticulate or implicit "wish," which is the distinguishing characteristic of Freud's use of the term. A popular exposition of abnormal psychology defines rationalization as a "process of self-deception in which the individual conceals the real foundations of his thoughts by a series of adventitious props."<sup>3</sup>

Mr. Ralph Piddington would have us go further, and use the term to connote "a process by which, on account of the superior value of an incompatible tendency, any situation suffers a loss of value as a determinant of thought or conduct." It is a short step to translate this into purely behaviouristic terms as follows: "A process by which, on account of the superior strength of an incompatible stimulus or tendency, stimulus or tendency becomes less able to evoke an appropriate response."<sup>4</sup> Whether this re-translation is acceptable or not, it is apparent that Mr. Piddington would extend the concept to include levels of conflict, and, if the word be applicable, of choice, where rational processes are not in evidence. Is it distinguishable from that instinctive suppression which Rivers suggested played so important a part in both normal and abnormal mental life? The statement that "the simplest form of rationalization consists of the degrading of the importance of that which we cannot attain"<sup>5</sup> seems inconsistent with the wider conception of rationalization which Mr. Piddington advocates.

Involving, as it does, "feeling, a multiplicity of tendencies all striving for mastery, but of which only one can be dominant at the one time,"<sup>6</sup> rationalization is sharply contrasted with reasoning, "essentially an intellectual function." This contrast challenges criticism, and is only significant if the definition of reasoning be distorted to imply something less than a process by which we arrive at knowledge by inference from admitted premises.

<sup>1</sup> This Journal, VI, p. 42.

<sup>2</sup> Lecky, "European Morals," I, p. 429.

<sup>3</sup> Hart, "Psychology of Insanity," p. 65.

<sup>4</sup> *Loc. cit.*, p. 52.

<sup>5</sup> *Loc. cit.*

<sup>6</sup> *Loc. cit.*, p. 53.

The force of Mr. Piddington's earlier argument is not always apparent. The general assumption of "the 'philosophical theory' view of knowledge" appears to be quite irrelevant, for it is neither referred to nor involved in what follows. The same is true of the doctrine of psycho-physical interaction, for the whole argument would be just as admissible if we adhered to the principle of psycho-physiological parallelism, which does not seek to define the causal relation existing between mental and neural events, but merely stresses their concomitant variation. That is all that is needed for Mr. Piddington's case, and to bring in an unnecessary controversial note is unwise.

The article then goes on to establish the "purely cognitive nature of belief," for on this is based the view that reasoning is a purely intellectual function. Such a view of belief is difficult to accept. Belief is essentially an attitude not only of the intellect, but of the whole personality. Merely intellectual acquiescence is consistent with doubt. We have heard people say, "The proof appears to be valid, but I cannot believe it." Belief involves readiness to act on the assumption that the thing believed is true. The warmth with which we defend our beliefs is due, not so much to self-assertion, as to the related tendency to preserve our world of reality which hitherto has been comfortable to live in, but which the doubter would take from us. The comparison of the belief in immortality with belief in the equality of the angles of the isosceles triangle supports rather than undermines this view. There are people who would sacrifice the latter belief if it were inconsistent with the former, for the belief in immortality is to them part of the world of reality, without which life would lose its meaning. For educated people, the equality of the angles of the isosceles triangle is so wrapped up with other beliefs, such as the universality of causation, that to deny it would be to shatter their world of reality. We believe in this principle, for instance, because we cannot face a world in which it is null and void. How dare we walk across the room, if it be untrue? This, too, is the basis of our acceptance of the axioms and canons of logic. Belief is very largely a matter of the will, especially where empirical demonstration is impracticable, as in the case of many of the tenets of religion. But once adopted, unless the principles of rationality are held more dearly and are more vital to the meaning of life for us, it will take more than argument or disproof to dispel such belief.

The adoption of a belief may come through reason or "rationalization." In any case, its truth is not questioned unless we perceive its inconsistency with some other belief. Then, if we are to preserve our unity of personality, we must reject one of the two, and we reject the belief whose reality is of least importance to our hold on and interest in life. This choice is a function of critical consciousness, but is fundamentally reducible to the balancing of alternative values or a conflict of tendencies. Our principles of thought may enter into this conflict, and in abstract thought they predominate as a selective agent. The intellectual man has a "sentiment" for logical thinking, which tends to support such tendencies in thought as are consistent with his intellectual habits. Under emotion, however, those tendencies which are consistent with the satisfaction of the emotional impulse are strengthened by it. The selection of ideas for attention is determined by their relative values for our interest, and it is only when intellectual habits of comparison, discrimination and criticism have become "second nature," that selection of ideas under emotion can be influenced by rational considerations. All people normally develop some such sentiment for principles of logical thought, however imperfect, for they could not live long without it.

The essence of criticism lies in the comparison of alternatives, and alternatives are compared according to their relation to other values of pressing importance. If the emotion is strong enough, the idea associated with it will assume more importance than the value of ideas perhaps more consistent with our principles of rational thought and behaviour. Thus it occupies the centre of attention, its reality is unchallenged, and it may be adopted as a belief even where it contradicts other relevant knowledge or beliefs which are not explicitly cognized at the moment. Very often, in

"rationalization" the more logical idea does not become explicit and never reaches critical consciousness for comparison and rational evaluation.

Thus efficient thought is more than criticism of what is presented to the attention. It involves selection of what shall become explicit. This cannot be a mere intellectual function, but can only be developed with the aid of sentimental factors. Where no appreciable emotion or feeling is present, the alternatives most consistent with the beliefs which form our principles of thought are almost automatically selected for attention—the least consistent alternatives never reach consciousness. But if these latter are strengthened by an emotional impulse, those alternatives consistent with our principles of thought may be displaced and never reach consciousness.

Neither on the conscious nor on the subconscious level can the selection of ideas for attention be explained in other than dynamic terms. Mr. Piddington's definition of rationalization applies just as well to the process by which the mind of the intellectual rejects the delusion and seeks reality, however unpleasant. The mechanism is the same in the case of reasoning or of rationalization, even if we take Hart's definition. The difference between the two processes lies in the relative strengths of the impulses associated with the possible alternative ideas, either through their relation to emotionally tinged ends or to the habits of attention, which we call the principles of thought. The true intellectual is he whose habits of attention are synthesized into a strong sentiment, in which self-assertion, his grasp on reality and the principles of thought which he has found effective are all bound up together in a dynamic system, which we may well term a "passion for rationality."

E. RONALD WALKER.

## II.

### ANOTHER OUTBREAK OF VIRTUE.

THERE is in America a body known as the Ku Klux Klan, whose mission it is to suppress all deviations from right thinking and right living by chastising, sterilizing or annihilating the deviator. There is also, principally in America, a body of psycho-physicians whose aim is the detecting of all deviations from "normalcy" and the maintaining of the norms by such methods as are permitted them. To Dr. W. D. Tait, author of the article on "Psychology, Leadership and Democracy," printed in the March number of the Journal, it would no doubt appear that there is all the difference in the world between the operations of the Klan and the system of scientific tests which he proposes. But the claim to be scientific is hardly supported by the character of the argument that he puts forward.

The principal norm erected by Dr. Tait is that of the "survival of the fittest." At present, he contends, flabby-mindedness prevails to such an extent that the law of natural selection is "defeated." "The fit survive, but the unfit still more survive." These statements betray an almost incredible ignorance of what is meant by natural law. If natural selection means anything at all, it means that the fittest *do* survive. Those who survive in present-day society are those who have the characteristics which enable them to do so. Dr. Tait is quite at liberty to desire such social changes that persons of a certain sort will alone survive, viz., those he calls "healthy," which simply means those who would survive under the conditions he prefers. But it must be recognized that those who would then be eliminated as "unfit" are, under present conditions, "fit." The norm of fitness, therefore, gives us no information.

What then is the society Dr. Tait prefers? It is a society in which "the individual" will flourish. Now, obviously, all societies are composed of individuals. What Dr. Tait wants is *outstanding* individuals, though, curiously enough, their business is to "lead" the others. In what direction? All that we learn from Dr. Tait is that it is towards "knowledge, truth and



betterment." This is sufficiently vague, but we gather that what is desired is a society in which more is known than is known at present. Incidentally, this can only be brought about "by substituting something for the law of natural selection." It would appear, then, that our author also is flabby-minded enough to want to defeat this law—a state of affairs which scarcely harmonizes with his desire to replace it by knowledge.

Taking the term "intelligence" as indicating the difference between the fit and the unfit, Dr. Tait envisages a society in which the general level of intelligence will be higher than it is now. But will this be an improvement? It is not precisely obvious that people who know more are better members of society than people who know less, or that those who have "intelligence" will be able to develop it to the best advantage in a society from which the unintelligent have been removed. What is wanted, to give any sort of precision to the theory, is a positive and not merely a comparative criterion. We may recall the adjuration of Heraclitus to the Ephesians to hang themselves, since they had expelled their best man. In the same way, if the psychophysician keeps on eliminating the worst members of society, there will eventually be no one left but himself.

The main point is that a vague psychological terminology and a sheer misconception of biology do not provide any sort of basis for the discussion of social problems. Dr. Tait's social comprehension may be measured by the reply he makes to the "superior workman" who "wonders why he must pay high taxes to support fleets and armies," viz., "In this he fails to see that it is those same fleets and armies which enable him to live, for otherwise he and his weaker brother would be replaced by the cheaper labour of those people whose standard of living is lower than ours." This is indeed something "deeper than economics or politics."

JOHN ANDERSON.

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## REVIEWS.

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ETHICAL STUDIES. F. H. Bradley. Second Edition, Revised, with Additional Notes by the Author. Oxford: At the Clarendon Press. 1927. Price: 15s. net.

The first edition of "Ethical Studies" appeared in 1876. Students of Ethical Theory will welcome the present edition if only because it had become extremely difficult to procure a copy of the work in its earlier form. In the case of a product of British philosophical thought at its best that was to be deplored.

The book, as it first appeared, consisted of a connected series of essays which, as a whole, contained an analysis of moral fact and an elucidation of the conditions of the good life. The most familiar of the essays is that entitled "My Station and Its Duties." The thesis of this essay, which is also the guiding idea of the book, is that "to know what a man is you must not take him in isolation. He is one of a people, he was born in a family, he lives in a certain society, in a certain state. What he has to do depends on what his place is, what his function is, and that all comes from his station in the organism. . . . In short, man is a social being; he is real only because he is social, and can realize himself only because it is as social that he realizes himself. The mere individual is a delusion of theory; and the attempt to realize it in practice is the starvation and mutilation of human nature, with total sterility or the production of monstrosities." The development of this thesis, with the philosophical analysis of the moral organism and the elaboration of the concrete universal, which is objective and all-inclusive, is a landmark in the progress of Ethical Theory.

I cannot discover in the notes which appear in the new edition any radical modification of the main doctrine. These notes are valuable, to adopt the language of the Preface to this edition, because of the light they

throw upon the writer's thought in its maturity, and as an example of that untiring search for truth which was his chief characteristic. The main service which Mr. Bradley's sister and brother, in publishing this edition, have rendered is that they have made more easily accessible a great work—great if only because it challenges thought upon the main problems with which Moral Philosophy is concerned.

J. McKELLAR STEWART.

**HINDU MYSTICISM.** Six Lectures on the Development of Indian Mysticism. By Professor S. N. Dasgupta. Chicago: The Open Court Publishing Co. 1927. Pp. xx + 168. Price: 2 dollars.

Mysticism has of late years received great attention from students of Philosophy and of Comparative Religion. In England the study of it has been popularized by the works of Dean Inge, Evelyn Underhill and others. Philosophically, it challenges the usual theories of knowledge; religiously, it provides a basis for fellowship among the varying forms of religion in the world.

The work under review, though short, is necessary for all students of the subject. It is not only necessary, but intensely interesting. Professor Dasgupta is one of the greatest authorities on Indian Philosophy, serious in religion and sympathetic in his treatment; and not only writes good English, but really has a style, which is often lacking in Indian writers. The six lectures are devoted to studies of Sacrificial Mysticism, Mysticism of the Upanishads, Yoga Mysticism, Buddhistic Mysticism, Classical Forms of Devotional Mysticism, Popular Devotional Mysticism.

Each of these is treated concisely but adequately, while the whole is characterized by a unity which is historical without being mechanical. The first three are naturally closely connected as a development; Buddhist Mysticism is partly adaptive, partly a reaction; Bhakti or Devotion, both in its classical and popular forms, has entirely parted with the early form of Sacrificial Mysticism: it is the love of and devotion to a personal deity and is strongly emotional.

It is the first lecture which introduces the greatest novelty, namely, a mysticism which does not involve belief in a deity. The conception of the Veda as uncreated and eternal and absolutely authoritative is matched later by a similar belief as to the nature of the Koran in orthodox Islam. This belief "naturally divested reason of confidence in its ability to unravel the mysteries of man and the world." The author justifies the inclusion of this doctrine in a work on mysticism on the ground "that it develops many features of the higher types and marks the starting-point of the evolution of Indian Mysticism."

G.W.T.

**MENTAL TESTS: THEIR HISTORY, PRINCIPLES AND APPLICATIONS.** By Frank N. Freeman. London: Harrap & Co.

This work is the first of its kind so far in the general field of mental tests. Specific monographs and texts in the field of measurement technique, vocational psychology, educational tests and of compendiums of tests and their results have frequently appeared, but no work has previously attempted to deal with the general history, theory and technique of the subject. Such a pioneer attempt may not therefore be judged by any previous standards.

The first chapter presents the main and accepted facts of mental tests. It deals with the attempt to measure native "capacities" as opposed to acquired and developed abilities, next problems of standardization, and then applications and uses of tests. There follows a sketch of the historical development of mental tests from their inception to the present period, including the applications of Wiesler of the principle of correlation.

Passing thence to the Binet scale and its developments, the author discusses these in detail, then the particular outgrowth of the point scale and the development of the group point scale. Numerous examples are

supplied to illustrate the text, and complete lists of all the available American published scales are presented ; on the other hand, there are notable omissions of English achievements in this section. Chapter VIII, dealing with personality traits, provides an account of most of the tests used, but is somewhat inconclusive in treatment ; it is also wanting in a classified list of these tests, such as rounds off the preceding chapter.

The succeeding two chapters deal with the organization of mental tests, their material and underlying principles. In the later chapter the vexed question of the scoring of tests where two choices of two alternative answers are required is given prominent space. The usual method is to take fifty per cent. of questions one way and fifty per cent. the other. The score is generally found by subtracting the number wrong from the number right. The justification for this procedure is that guessing or even random marking of answers would yield fifty per cent. of right answers, according to the law of probability. The subtraction of fifty per cent. of wrong answers gives a zero result, the actual value of such a method of answering. Against this, however, is the fact that such wrong answers do not always imply wild guessing. The principle in question has been hotly discussed in various journals in the United States of America. The author is, on the whole, opposed to the "Right *minus* Wrong" method of scoring. The correct method is, of course, to follow Punch's advice to those about to marry, which is : "Don't !" ; for the dilemma may be easily avoided by using other methods of setting out such tests. In dealing with the I.Q. and development of mental growth, the significance and relationship of the parallel terms of "brightness, coefficient and significance of the point scale coefficient of intelligence" are also discussed, together with their relations to the A.Q. or "achievement quotient." Next follows a brief treatment of statistical aspects.

The following chapters treat of applications and results of mental tests in specific fields. Quite a new phase is that treated of in that which deals with mental growth. Professor Freeman there attempts to deal generally with theories. It would seem, however, that actual positive results in strictly limited types of tests, such as Woodrow has attempted in certain chapters of "Brightness and Dullness in Children," might well be included here. The treatment of educational and vocational applications as well as the problem of delinquency follow on the usual lines, the book treating of the most recent phases of extant researches. The last two chapters deal with the problem of intelligence. The vexed problem of the Spearman-Thorndike controversy—that "lobster and wine" of mental test enthusiasts—is well presented, the author inclining to Spearman's principle of "*g*." He, however, apparently ignores the verdict of Godfrey Thompson of "not proven" against Spearman's speculations. He actually goes further, however, than Spearman himself by identifying "*g*" with capacity for generalization and abstraction.

The severest criticism that can be offered is that the work sometimes shows a tendency, in some cases, to ignore the researches of recent English psychologists in this field. In the second place, the inclusion of very much actual test material does not, in the opinion of the reviewer, make for the best interests of the tests themselves. The freshness of tests is frequently spoiled for students in this way. Any class taking up such a specific study ought to devote a fair proportion of its time to actual laboratory work in tests and obtain such information by first-hand acquaintance and use of the materials. It is no more possible to teach the subject by medium of text and lectures than it is to afford instruction in experimental psychology by such methods. A more sparing use of illustrative material in some sections perhaps would be wiser.

The work is, generally, comprehensive and broad in outlook. Many readers will probably agree that it presents many contentious points, and in some cases they will diverge more or less from the confessed opinions of the author. But in these early days of tests where may agreement be found ? Where established principles exist they are presented faithfully ; on points where there are disagreements pros and cons are carefully weighed. On



the whole, the work is sane and conservative rather than over-enthusiastic in discussing the possibilities of test applications, but this is, after all, a wiser course than an unrestrained advocacy that may do more harm than good. The text will be found especially useful to advanced students rather than to raw beginners or the general reader. For these much has been written heretofore. This solid and careful summary will be a welcome text to English university and college classes in this subject. There is little that is trite or purely conventional; all the principles reviewed are treated from fresh and modern angles. It crystallizes many phases which have provided the matter for lectures in the past, and it further enables the student to supplement such presentation by reference to collated material, impossible to treat of otherwise except in a very extensive lecture course.

A. H. MARTIN.

#### THE PSYCHOLOGY OF MURDER. A Study in Criminal Psychology.

By Andreas Bjerre. (Translated from the Swedish by E. Classen.)  
London: Longmans, Green & Co. 1927.

Here is a book of the greatest interest by a brilliant man who was at once a fine stylist and a psychologist of insight. It differs radically in both method of investigation and in point of view from the many other works on criminology which have appeared. The author studied at Upsala and Lund, at Berlin, Oslo, Copenhagen, and Stockholm. In 1919 he was appointed Professor of Criminal Law at the University of Dorpat, and in 1921 to the Chair of Legal Philosophy. This chair, owing to ill-health, he was compelled to resign in 1925, and in the same year he died at Tyringe, in Sweden. In the preface to the book, Birger Ekeberg, a former Minister of Justice, says: "The author is not only a pre-eminent psychologist; his work is stamped with considerable literary talent. He draws his criminal types with artistic breadth, and the reader follows his analysis of the course of action with something of the tenseness which he experiences in the study of a drama by a master hand. In his own country he has been compared with Dostojevski, and it has been said by experts that in gift of penetration into the psychic life of criminals he far surpasses that master." After reading the book, the reviewer is prepared to support these claims.

The author had come to the definite conclusion that "modern criminal psychology had reached a stage in its development at which it was necessary to advance from general and indirect, essentially statistical, investigations to personal observation of the criminal." This aim the author pursued by devoting many years to the first-hand study of criminals in Swedish prisons. While admitting that detailed investigation of individual criminals should ultimately issue in classification in accordance with essential common features, yet among murderers "every single crime appeared from the beginning to have developed from such completely distinct and peculiar psychological conditions" that classification is at present impossible. For this reason the classification given by the author is "both hypothetical in its foundation and incomplete in practice."

After prolonged observation, Bjerre was driven, in spite of himself, to the generalization that "the determining factor in all crime is *weakness*." The real cause of crime "is not merely the incapacity of the criminal to maintain himself by honest work, but also, without exception, deeper psychological defects." "Weakness," therefore, here means "a general unfitness or incapacity for satisfying the demands which life imposes upon one and all, irrespective of social environment and other external conditions." The means of escape from the realities of life to which criminals resort the author finds to be mainly three—self-deception, renunciation, and shamming—and very ably indeed does he show these at work in three respective murderers. As for self-deception, Bjerre found that criminals "have the supreme and amazing faculty of transforming even the most palpable and intractable of all external realities." By renunciation, the author means "the renunciation of every individual effort and the assumption of an attitude



of complete passivity towards everything which is not essential to the mere maintenance of animal existence." These two principles of self-deception and passivity find ample justification in modern psychology. It is now well established that on the frontier of reality, where our wishes meet and contend with opposing circumstances, some individuals strongly and capably mould or adjust themselves to reality, others weakly deceive themselves about the real facts of their lives in order to secure the fulfilment of their wishes in spite of the truth of circumstance. Those take the way to mental health and personal integrity, these the way to neurosis and crime, for rationalization and deviousness grow upon the individual until he becomes incapable of a sound social and moral judgment of facts and of actions done upon those facts.

Passivity, too, one can understand. It also is a withdrawal from truthful recognition of the facts and strong action performed in accordance with that truth. Here the individual, afraid of such activity, devotes himself to day-dreaming and phantasy, and lives in a world untrammelled by the truth of fact, a world in which he can secure and enjoy the delights of imaginary gratification. The danger of taking this course is obvious.

Shamming is more difficult to comprehend. It would seem that the inner wishes and trends of life are maintained against the truth of fact by a recourse to an a-moral attitude in which the individual outwardly conforms to formal requirements. He does not conform to them because they are right or reasonable, but because, by conforming, he can have his own way.

A special case, carefully investigated by Bjerre, is taken to illustrate each of these principles, and those interested in criminal psychology will find the account of these investigations altogether fascinating. One cannot help thinking, however, that in the account of crime there should be given a significant place to early social environment. Is it not important, for example, to consider the influence of that kind of home which creates antagonisms between child and parent in a way to breed an attitude of opposition to authority from the beginning, and which then drives the child, while still a child, to join with similar children in gang-life where the opposition to social and moral authority is confirmed? Supreme though the importance is of the psychological defects which Bjerre investigates, yet one cannot help thinking that this factor of the social environment has something to do with the making of criminals. Still, in spite of this omission, Bjerre's book remains the most profound study of the criminal that the reviewer has yet read.

H. TASMAN LOVELL.

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**ZEHN VORLESUNGEN UEBER DIE GRUNDLEGUNG DER MENGENLEHRE.** By A. Fraenkel. *Wissenschaft und Hypothese*, XXXI, Teubner, Leipzig. 1927. Price: M. 8.

An earlier work by the same author on this subject—*Einleitung in die Mengenlehre* (2 Aufl. 1923) was reviewed in this Journal (Vol. II, 1924, p. 311), and the remark was made that the mathematician would probably say that it would have been a better book if it had been more mathematical, . . . but for the philosopher there might just be the proper amount. The book now under review is a less ambitious work, and is probably intended more for the philosopher, since it consists of ten lectures delivered at Kiel on the invitation of the local group of the *Kant-Gesellschaft*, from June 8 to 12, 1925. These are now published in the well-known *Wissenschaft und Hypothese* Series, practically in the form in which they were delivered. In an Appendix (pp. 171-178) there is a list of recent works on the subject, of which use has been made. That a list, dealing only with the important memoirs and books of the last ten years, should be of such length shows the great interest that is being taken in this subject—the arithmetical foundation on which mathematics is built.

In the first two lectures (pp. 1-25) a sketch of Cantor's Theory of Sets (*Mengenlehre*) is given. Here, and elsewhere throughout the book, no knowledge of advanced mathematics is assumed. The second lecture

concludes with a statement of the antinomies of Russell (Zermelo), 1903, Burali-Forti, 1897, and Richards, 1903, which so profoundly disturbed mathematicians interested in the foundations of their science, and brought Cantor's theory, as originally expounded, down from its pride of place.

The next two lectures (pp. 26-57) are devoted to the work of the intuitional school. Its leader is Brouwer, Professor of Mathematics in the University of Amsterdam, whose inaugural lecture (1912) was on "Intuitionism and Formalism," and whose later works are scattered from 1918 among the leading mathematical journals. This part of the book is, I take it, for the philosopher who is a bit of a mathematician rather than for the mathematician with or without a slight knowledge of philosophy. And in the preface the author admits that it may be "*noetigenfalls*" passed over.

It is fair to add that the Brouwer school has both supporters and opponents. The air is thick with the bricks the combatants throw at each other. The end is not yet.

In the next lecture we come to the Axioms of the *Mengenlehre*, and note that it is by a re-statement of these axioms that Cantor's work is rebuilt. Indeed, the main object of Fraenkel's lectures is to show that mathematical analysis can be built up in this way, not perhaps in a such a brilliant style as Cantor's, but so that the essential parts of his creation remain, and the building is surrounded by a wall, which protects it from the paradoxes which seemed to be its ruin.

In this school the outstanding figure is Hilbert, whom philosophers and mathematicians know from his work on the "Foundations of Geometry," but perhaps they do not recognize that as that foundation was arithmetical, the assault on the science of Arithmetic made the rigour of his work on Geometry uncertain till the attack was repelled.

Both mathematicians and philosophers, or, at any rate, some mathematicians and many philosophers, will find these lectures stimulating, interesting and informing. The writer has made valuable contributions to the discussion in his own original papers. He recognizes that the work of the mathematicians (his own included) are frequently put in such a form that only experts in this domain can find them easy reading. He considers that at least some of the difficulties have been removed by putting his treatment in the form of lectures to such an audience as he had at Kiel.

The book is certainly a valuable addition to the series of which it forms a part, and students of mathematical philosophy will be glad that the editors have persuaded Professor Fraenkel to give his lectures this permanent form and wider audience.

H. S. CARSLAW.

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## JOURNALS RECEIVED.

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THE JOURNAL OF PHILOSOPHY. Edited by Professors Woodbridge, Bush and Schneider, Columbia University. Published fortnightly. 4 dollars a year.

Vol. XXIV. No. 25. December 8, 1927. Concepts and Twilight Zones: Morris R. Cohen. Reply to Professor Calkins: Ralph Barton Perry. No. 26. December 22. A Type of Religious Mysticism: Sterling P. Lamprecht. Vol. XXV. No. 1. 1928. On the Order of Plato's Writings: D. S. Mackay. The Problem of Induction: H. R. Smart. No. 2. January 19. Economics as the Science of Experience: Rexford Guy Tugwell. The Concept of Expression in Esthetic Theory (I): Herbert Ellsworth Cory. No. 3. February 3. The Concept of Expression in Esthetic Theory (II): Herbert Ellsworth Cory. Psychogenetic Factors in Emergentism and Allied Views: F. L. Wells. Linguistics and the Psychology of Speech: Grace A. de Laguna. Professor Harry Norman Gardiner as Teacher and College Officer: Anna A. Cutler. No. 5. March 1. The Philosophy of Dialectical Materialism (I): Sidney Hook. Alfred



Henry Lloyd, 1864-1927: A. L. Cross, D. H. Parker, R. M. Wenley. Philosophy and Metaphor: Stephen C. Pepper. No. 6. March 15. The Philosophy of Dialectical Materialism (II): Sidney Hook. William James and Empiricism: F. C. S. Schiller.

PSYCHE. Edited by C. K. Ogden. Kegan Paul, Trench, Trubner & Co., London. Published quarterly. Price: 5s.

No. 31. January, 1928. Editorial: The Future of English. Verbal Forms and Colours: Frank Hawley. Materialism, Vitalism and Psychology: William M. Marston. The Autonomy of the "I" from the Standpoint of Group Analysis: Trigant Burrow. Life Energy: Mathew B. Ray. Behaviourism and *Gestalt*-Psychology: Oliver L. Reiser. Racial Minds: Thomas R. Garth. An Anatomy of Ethics: Curtis Bruen. Some Notes on Memory: C. Bloor.

JOURNAL OF PHILOSOPHICAL STUDIES. Edited by S. E. Hooper. Published quarterly for the British Institute of Philosophical Studies, by Macmillan & Co., London. Price: 3s. 6d.

Vol. III. No. 9. January, 1928. Logic and Mathematics: H. W. B. Joseph. The Philosophy of Melchior Palágyi (I): W. R. Boyce Gibson. Organicism in Biology: Joseph Needham. The Problem of Value: J. E. Turner. The Philosophy of a Business Man: G. Dawes Hicks. Behaviourism, A Logical Study: H. Wallis Chapman. Meaning: James Drever. Types of Imagination: F. C. Bartlett.

THE ECONOMIC RECORD. Journal of the Economic Society of Australia and New Zealand. Melbourne University Press. Price: 5s.

Vol. IV. Supplement. February, 1928. Foreword. The Theory of Marketing, with special reference to Primary Products: D. B. Copland. Wheat Pools, with special reference to Australia: G. L. Wood. Problems of Constructive Agricultural Co-operation: J. Thompson. Digest of Paper on the Collective Marketing of Australian Produce, with special reference to Wheat: C. W. Harper. Bawra: E. C. Dyason. An Australian Wool Futures Market: H. E. Teare. The Marketing of Australian Base Metals: Sir W. L. Raws. Gold Marketing: E. C. Dyason. Review of the Australian Export Trade: E. T. McPhee. South Australian Marketing: A. L. G. MacKay. The Marketing of the Primary Products of Australia: Hon. T. Patterson. A Review of the Queensland Plan for the Marketing of Primary Products: L. R. MacGregor. The Empire Marketing Board and Empire Economic Affairs: F. L. McDougall. Some Costs of Marketing Control: L. F. Giblin. Notes on New Zealand Control Boards: A. H. Tocker.

THE INTERNATIONAL JOURNAL OF PSYCHO-ANALYSIS. Official Organ of the International Psycho-Analytical Association. Baillière, Tindall & Cox, London. 30s. per annum.

Vol. IX. Part 1. January, 1928. Humour: Sigmund Freud. Lectures on Technique in Psycho-Analysis (*continued*): Edward Glover. The Clinical Aspect of the Need for Punishment: Otto Fenichel. The Secret of the Birth of Iron: H. S. Darlington. The Graveyard Scene in "Hamlet": Norman J. Symons.

ARCHIVES DE PSYCHOLOGIE. Edited by Ed. Claparède. Kundig, Geneva. Price: 4 fr.

Tome XX. No. 80. September, 1927. L'Auto-Justification: Ed. Claparède. Recherches sur le Développement de l'Habilité Manuelle: Gertrude Ehinger. Age et Déclin des Aptitudes: Gertrude Ehinger. Le Principe de la Globalisation: Dr. O. Decroly. Nouvelle Méthode Chronographique: J. E. de Guay.

MEDICAL RESEARCH COUNCIL'S REPORTS. H.M. Stationery Office, London.

No. 44. 1927. Price: 5s. The Physique of Women in Industry. No. 46. 1928. Price: 2s. A Physiological Investigation of the Radiant Heating in Various Buildings. No. 47. 1928. Price: 1s. 3d. Two Studies on Hours of Work: (I) Five-hour Spells for Women, with references to Work Pauses; (II) The Two-shift System in Certain Factories.

No. 48. 1927. Price: 2s. 6d. Artificial Humidification in the Cotton Weaving Industry. Joint Report of the Industrial Fatigue Research Board and the Illumination Research Committee. 1928. Price: 4d. The Effect of Different Systems of Lighting on Output and Accuracy in Fine Work.

L'ANNÉE PSYCHOLOGIQUE. Edited by Henri Piéron. 1926. Félix Alcan, Paris. Price: 90 fr.

Vol. XXVII. 1926. Les Problèmes de la Perception et la Psychophysiology: H. Piéron. Qualité du Travail Mental—Lois d'Exercice et de Fatigue: M. Foucault. Déterminisme endocrinien du Comportement psycho-sexuel: A. Pézard. Application du Test de Ballard dans les Ecoles Belges: O. Decroly. Etude des Processus de Mesure spatiale linéaire: Janina Budiewicz. Un Test d'Intelligence pour l'Orientation professionnelle: M<sup>me</sup>. H. Piéron. Complete Bibliographical Analysis added.

PHILOSOPHISCHER WELTANZEIGER. Edited by Paul Feldkeller. Schönwalde (Niederbarnim) bei Berlin. Price: 40 Pfg., or yearly (6 numbers), Mk. 2.00.

Vol. 1926-27. No. 6. Eine wiederhergestellte Kant-Gedenkstätte: P. F. Die fundamentalistische Bewegung: Prof. R. C. Schiedt. Hauptversammlung Joh.-Rehmke-Gesellschaft 1927. Die Philosophie der Völker im Spiegel ihrer Zeitschriften (Die Vereinigten Staaten von Nordamerika): Paul Feldkeller. Das neue Japan und die Philosophie: Prof. H. Minami. C. J. P. J. Bolland: P. F.

WELFARE WORK. The Journal of the Institute of Industrial Welfare Workers. 29 Gordon Square, London, W.C. 1. Price: 5s. per annum.

THE MEDICAL JOURNAL OF AUSTRALIA. Sydney. Published weekly. Price: 1s.

This Journal frequently contains articles on Psychiatry and Psychological Medicine of interest to our readers.

THE MORPETH REVIEW. A Review of Life and Work. Published at S. John's College, Morpeth, New South Wales. Edited by E. H. Burgmann, M.A., and R. S. Lee, M.A., B.Litt. Price: 2s. a copy or 7s. 6d. a year.

No. 3. March, 1928. The Art of Life: E. H. Burgmann. Thoughts on Education: E. Harold Davies. The Clash of Cultures: H. R. Holmes. Christianity and the League of Nations: A. H. Garnsey. Student Internationalism: R. S. Lee. Undergraduate Religion in Oxford: C. H. Murray. The Growth of the Gospels: P. A. Micklem. A Poem, *Audi Alteram Partem*: Olive Cross. Music and Religion: A. Wright Dennis. Nature's Mysteries: H. M. R. Rupp. *Monumentum Aere Perennius*: A. W. D'Ombrian. Marx and Communism: F. A. Mauldon. Prisons and People: E. H. Burgmann. Psychology and Medicine: E. H. Burgmann. Children and Their Books: E. H. Burgmann.

## BOOKS RECEIVED.

A LETTER TO A FRIEND. Anonymous. 1928. Chicago: The Open Court Publishing Co. Price: 1 dollar.

This book gives an intimate account of an intense and prolonged religious experience.

ONE-ACT PLAYS OF TODAY. Fourth Series. Selected by J. W. Marriott. London: George G. Harrap & Co. Price: 2s. 6d.

## NOTES AND NEWS.

The Philosophical Department in Adelaide is establishing some interesting connections with other departments. A course has been devised for the Degree of B.Sc. in Bio-Chemistry (including the physiology of the nervous system), Psychology, and Logic. One student is this year taking a combined



Honours course in History and Philosophy, and the Honours students in History take a seminar in the Theory of the State conducted by the Professor of Philosophy.

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The University of Queensland is making good headway in the establishment of its study of Experimental Psychology. Recently there arrived a shipment of psychological apparatus. Upon this advance Professor Scott Fletcher is to be warmly congratulated.

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The Auckland Local Branch held its annual meeting for 1927 on November 30. The following office-holders were appointed: President—Professor W. Anderson. Honorary Vice-Presidents—The Hon. G. Fowlds, O.B.E., E. V. Miller, Esq., the Rev. H. Ranston, D.Litt., the Rev. A. Thornhill, M.A. Secretary and Treasurer—Mr. H. C. Becroft, M.A. Student Secretary and Treasurer—Mr. H. L. Gamer.

After the formal business, a paper was read by Mr. E. V. Miller on "Einstein and Pre-Relativity Physics," which led to a keen discussion.

The first meeting of the 1928 session was held on Thursday, March 8, when Professor H. Chapman Brown, of Leland Stanford University, U.S.A., gave an address. The ensuing discussion was both stimulating and instructive. The Auckland Branch is deeply indebted to Professor Brown for his interesting address.

The second meeting of the Auckland Branch was held on Friday, March 23, when Raymond Firth, M.A., Ph.D., gave a most interesting lecture on "Modern Anthropology." Dr. Firth, an ex-student of Auckland University College, has just returned from London University, where he has completed a post-graduate course in Anthropology. He is leaving New Zealand almost immediately to carry on research work among the natives of Tikopia Island. Anthropologists and psychologists alike will await the results of his work with the keenest interest.

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## ANNOUNCEMENT.

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### PSYCHOLOGICAL ABSTRACTS.

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